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OF
PRINCETON UNIVERSITY

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Undergraduate Announcement
1916-1917



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OFFICIAL REGISTER OF PRINCETON UNIVERSITY

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Issued twice a month during December, January, February, March and April, and monthly in May and September.

These publications include:

The Catalogue of the University.

The Undergraduate Announcement.

The Reports of the President and the Treasurer.

The Descriptive Booklet.

The announcements of the several Departments, relating to the work of the next year. These are made as accurate as possible, but the right is reserved to make such changes in detail as circumstances may require.

The current number of any of these publications may be obtained by application to the Secretary of the University, Princeton, New Jersey.

PRINCETON UNIVERSITY

Undergraduate Announcement



ADMISSION; PLAN OF STUDY; COURSES; GEN-
ERAL REGULATIONS; ALLOTMENT AND
RENTAL OF ROOMS, PRIZES, RE-
MISSION OF TUITION,
SCHOLARSHIPS

Published by Princeton University

1916



CALENDAR

1916

- Oct. 3-7.* Examinations for admission.
**Oct. 10, 3 P. M.* Formal opening exercises.
Oct. 10. Last day for enrolment of Graduate Students
at the office of the Dean of the Graduate
School.
Oct. 10-23. Examinations for removal of first and sec-
ond term conditions.
Oct. 19-21. First part of examination for the degree of
Doctor of Philosophy.
Oct. 22. Commemoration Day.
Oct. 26. Meeting of the Board of Trustees.
Nov. 30. Thanksgiving Day.
Dec. 19, 1.30 P. M. Christmas vacation begins.

1917

- Jan. 3, 10.30 A. M.* Christmas vacation ends.
Jan. 11. Meeting of the Board of Trustees.
Jan. 29. Last day for reporting second term electives.
Feb. 7-20. First term examinations.
Feb. 21. Second term begins.
Feb. 22. Washington's Birthday. Class of 1876 Prize
Debate.
March 1. Last day for receiving applications for Fel-
lowships and Graduate Scholarships.

* The opening of the University was postponed from September 26 to October 10, because of the prevalence of Infantile Paralysis in New Jersey and the neighboring States.

March 7, 12 M. Stated Meeting of the Faculty Committee on the Course of Study.

April 6-8. Easter recess.

April 12. Meeting of the Board of Trustees.

May 10-12. First part of examination for the degree of Doctor of Philosophy.

May 24-June 6. Senior final examinations.

June 2-15. Examinations of the three lower classes.

June 7-15. Examinations for the removal of Class F conditions in first and second term senior subjects.

June 7. Last day for receiving applications for the Master's degree.

June 16. Junior Orator and Maclean Prize contests.

June 17. Baccalaureate Sunday.

June 18. Commencement meeting of the Board of Trustees. Annual meetings of the Literary Societies. Class Day.

June 19. 170th Annual Commencement. Alumni Trustee election. Alumni luncheon.

June 18-23. College Entrance Board examinations for admission, held simultaneously in Princeton and elsewhere.

Sept. 10-22. Examinations for removal of first and second term Class F conditions.

Sept. 17-20. Examinations for admission, held in Princeton only.

Sept. 25, 3 P. M. Formal opening exercises.

Sept. 30. Last day for enrolment of Graduate Students at the office of the Dean of the Graduate School.

Oct. 11-13. First part of examination for the degree of Doctor of Philosophy.

- Oct. 22.* Commemoration Day.
Oct. 25. Meeting of the Board of Trustees.
Nov. 29. Thanksgiving Day.
Dec 18, 1.30 P. M. Christmas vacation begins.

1918

- Jan. 2, 10.30 A. M.* Christmas vacation ends.
Jan. 10. Meeting of the Board of Trustees.
Jan. 21. Last day for reporting second term electives.
Jan. 30-Feb. 12. First term examinations.
Feb. 13. Second term begins.
Feb. 22. Washington's Birthday. Class of 1876 Prize Debate.
March 1. Last day for receiving applications for Fellowships and Graduate Scholarships.
March 6, 12 M. Stated Meeting of the Faculty Committee. on the Course of Study.
March 27, 1.30 P. M.—April 2, 10.30 A. M. Easter recess.
April 11. Meeting of the Board of Trustees.
May 9-11. First part of examination for the degree of Doctor of Philosophy.
May 23-June 5. Senior final examinations.
June 1-14. Examinations of the three lower classes.
June 6. Last day for receiving applications for the Master's degree.
June 6-14. Examinations for the removal of Class F conditions in first and second term senior subjects.
June 15. Junior Orator and Maclean Prize contests.
June 16. Baccalaureate Sunday.
June 17. Commencement meeting of the Board of Trustees. Annual meetings of the Literary Societies. Class Day.

- June 18.* 171st Annual Commencement. Alumni Trustee election. Alumni luncheon.
- June 17-22.* College Entrance Board examinations for admission, held simultaneously in Princeton and elsewhere.

FACULTY MEETINGS, 1916-1917

All meetings but the first at 5 P. M.

UNIVERSITY FACULTY: October 10, 16, November 6, 20, December 4, 18, January 15, February 5, 19, March 5, 19, April 2, 16, May 7, 21, June 4.

TERMS OF ADMISSION TO PRINCETON UNIVERSITY

ENTRANCE EXAMINATIONS

Candidates for admission to the freshman class of Princeton University presenting themselves for examination in June, whether under the old or the alternative method, will take the examinations of the College Entrance Examination Board. Examination certificates issued by the Board will be accepted in place of the former Princeton June entrance examinations in so far as the certificates presented correspond to the requirements for admission to the several courses as prescribed below. Candidates offering such certificates are required to submit therewith the testimonials as to character and general fitness described in a subsequent paragraph. The latter testimonial shall state definitely the amount of work done in each subject offered for examination.

A list of places at which examinations are to be held by the College Entrance Examination Board in June will be published about March 1. Requests that examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1.

Applications for the Board's examinations should be made in accordance with the instructions printed below.

In September entrance examinations for admission to Princeton University will be held, as heretofore, *in Princeton only* in accordance with the schedule printed on page 15.

Each candidate admitted to any class in the University shall pay an admission fee of five dollars.

COLLEGE ENTRANCE BOARD EXAMINATIONS

The Old Method of Admission

All applications for examinations must be addressed to the Secretary of the College Entrance Examination Board, 431 W. 117th St., New York, N. Y., and must be made upon a blank form to be obtained upon application to the Secretary of the Board.

If the application is received sufficiently early, the examination fee will be \$5.00 for candidates examined in the United States and Canada and \$15.00 for candidates examined outside of the United States and Canada. The fee should be remitted by postal order, express order, or draft on New York to the order of the College Entrance Examination Board.

The applications and fees of candidates who wish to be examined outside of the United States and Canada must reach the Secretary of the Board at least five weeks in advance of the first day of the examinations, that is, on or before Monday, May 14, 1917.

The applications and fees of candidates who wish to be examined in the United States at points west of the Mississippi River, or in Canada, must be received at least three weeks in advance of the examinations, that is, on or before Monday, May 28, 1917.

The applications and fees of candidates who wish to be examined in the United States at points east of the Mississippi River or on the Mississippi River must be received at least two weeks in advance of the first day of the examinations, that is, on or before Monday, June 4, 1917.

When the candidate has failed to obtain the required blank form of application for examination, the usual examination fee will be accepted if the fee arrive not later than the specified date, accompanied by a memorandum containing the name and address of the candidate, the examination

centre at which he wishes to present himself, and a list of all the subjects in which he may have occasion to take the Board's examinations.

Applications received later than the dates named will be accepted when it is possible to arrange for the admission of the candidates concerned, but only upon payment of \$5.00 in addition to the usual fee.

In June 1917 the schedule of examinations will be as listed below. On Monday, June 18, candidates may register between 8.45 and 9.30 A. M. and between 1.45 and 2.00 P. M. On the following days the registration periods are from 8.45 to 9 A. M. and from 1.45 to 2.00 P. M.

Monday—June 18

- 9.30 A. M. Mathematics *A1*. Algebra to Quadratics
 Mathematics *A2*. Quadratics and beyond
 2 P. M. Mathematics *C*. Plane Geometry
 Mathematics *D*. Solid Geometry

Tuesday—June 19

- 9 A. M. English *1*. Grammar and Composition
 English *2*. Literature
 2 P. M. Mathematics *F*. Plane Trigonometry

Wednesday—June 20

- 9 A. M. Latin *2*. Elementary Prose Composition
 Latin *4*. Cicero's *Manilian Law* and *Archias*, and
 Sight Translation of Prose
 Latin *1*, *2*, and *4* combined
 2 P. M. Latin *3*. Second Year Latin
 Latin *5*. Vergil's *Æneid*, I, II, and IV or VI, and
 Sight Translation of Poetry

Thursday—June 21

- 9 A. M. History *A*. Ancient
 History *B*. Mediaeval and Modern
 History *C*. English
 History *D*. American

- 2 P. M. French *A*. Elementary (First and second years)
French *B*. Intermediate (Third year)
Spanish *A*. Elementary (First and second years)

Friday—June 22

- 9 A. M. German *A*. Elementary (First and second years)
German *B*. Intermediate (Third year)
2 P. M. Chemistry
Physics

Saturday—June 23

- 9 A. M. Greek *A1*. Grammar
Greek *A2*. Elementary Composition
Greek *BG*. Xenophon and Sight Translation
2 P. M. Greek *C*. Homer's *Iliad*, I-III

The Alternative Method of Admission

Candidates who wish to take the Board's comprehensive examinations under the Alternative Method of Admission must make application on a special blank form to be obtained from the Secretary of the College Entrance Examination Board, 431 West 117th St., New York, N. Y. No application to take these examinations can be entertained by the College Entrance Examination Board unless the candidate has previously obtained permission from the Committee on Entrance of Princeton University. In this permission must be specified the particular examinations to be taken by the candidate. In view of the fact that the candidate's application to the College Entrance Examination Board must reach the Secretary of the Board on or before a certain specified date, it will be necessary for the candidate to obtain this permission from the college at a still earlier date.

If the application is received by the College Entrance Examination Board sufficiently early, the examination fee

will be \$5.00 for candidates examined in the United States and Canada and \$15.00 for candidates examined outside the United States and Canada. The fee should be remitted by postal order, express order, or draft on New York, payable to the College Entrance Examination Board.

The applications and fees of candidates who wish to be examined outside of the United States and Canada must reach the Secretary of the Board at least five weeks in advance of the first day of the examinations, that is, on or before Monday, May 14, 1917.

The applications and fees of candidates who wish to be examined in the United States at points west of the Mississippi River, or in Canada, must be received at least three weeks in advance of the examinations, that is, on or before Monday, May 28, 1917.

The applications and fees of candidates who wish to be examined in the United States at points east of the Mississippi River or on the Mississippi River must be received at least two weeks in advance of the first day of the examinations, that is, on or before Monday, June 4, 1917.

Applications received later than the dates named will be accepted when it is possible to arrange for the admission of the candidates concerned, but only upon payment of \$5.00 in addition to the usual fee.

The schedule of comprehensive examinations for candidates under the Alternative Method of Admission in June 1917 will be as follows:

Monday—June 18

9.30 A. M.-12.30 P. M. Mathematics

Tuesday—June 19

9 A. M.-12 M. English

Wednesday—June 20

9 A. M.-12 M. Latin

Thursday—June 21

9 A. M.-12 M. History

2 P. M.-5 P. M. $\left\{ \begin{array}{l} \text{French} \\ \text{Spanish} \end{array} \right.$ *Friday—June 22*

9 A. M.-12 M. German

2 P. M.-5 P. M. $\left\{ \begin{array}{l} \text{Physics} \\ \text{Chemistry} \end{array} \right.$ *Saturday—June 23*

9 A. M.-12 M. Greek

PARTIAL LIST OF EXAMINATION CENTERS FOR
JUNE, 1917

The following list, which is given to forestall a considerable number of inquiries, contains some of the more important places at which the Board will hold examinations in June, 1917:

ALABAMA, Birmingham.

ARKANSAS, Little Rock.

CALIFORNIA, Berkeley, Los Angeles.

COLORADO, Denver.

CONNECTICUT, Bridgeport, Danbury, Derby, Hartford,
Middletown, New Haven, Norwalk, Norwich, Stamford,
Waterbury, Winsted.

DELAWARE, Wilmington.

DISTRICT OF COLUMBIA, Washington.

FLORIDA, Jacksonville.

GEORGIA, Atlanta, Savannah.

IDAHO, Boise.

ILLINOIS, Chicago, Peoria.

INDIANA, Indianapolis.

IOWA, Davenport, Des Moines, Dubuque.

KENTUCKY, Louisville.

LOUISIANA, New Orleans.

MAINE, Bangor, Portland.

MARYLAND, Baltimore.

MASSACHUSETTS, Amherst, Beverly, Boston, Cambridge, Fall River, Fitchburg, Great Barrington, Lowell, New Bedford, Newburyport, Northampton, South Hadley, Springfield, Tufts College, Wellesley, Williamstown, Worcester.

MICHIGAN, Detroit.

MINNESOTA, Minneapolis.

MISSOURI, Kansas City, St. Joseph, St. Louis.

MONTANA, Butte, Helena.

NEBRASKA, Omaha.

NEW HAMPSHIRE, Concord, Hanover, Manchester.

NEW JERSEY, Asbury Park, Newark, New Brunswick, Passaic, Plainfield, Princeton, Trenton.

NEW YORK, Albany, Brooklyn, Buffalo, Elmira, Ithaca, New York, Peekskill, Poughkeepsie, Rochester, Syracuse, Utica.

NORTH CAROLINA, Asheville.

OHIO, Cincinnati, Cleveland, Columbus, Dayton, Toledo, Youngstown.

OREGON, Portland.

PENNSYLVANIA, Erie, Harrisburg, Philadelphia, Pittsburgh, Reading, Scranton.

RHODE ISLAND, Newport, Providence, Westerly.

SOUTH CAROLINA, Charleston.

TENNESSEE, Memphis, Nashville.

TEXAS, Austin, Dallas, El Paso, Houston.

UTAH, Salt Lake City.

VERMONT, Bellows Falls, Burlington, Rutland.

VIRGINIA, Richmond, Roanoke.

WASHINGTON, Seattle, Spokane.

WISCONSIN, Milwaukee.

HAWAII, Honolulu.

SEPTEMBER EXAMINATIONS IN PRINCETON ONLY

Examination Fee

Each candidate who proposes to take the Princeton entrance examinations in September should send to the Registrar before September 1:

(a) A statement containing his full name and the name and address of his parent, or guardian, and of his school. If he has taken preliminary examinations, this should be stated.

(b) A fee of five dollars, either by money order or cheque payable to *Princeton University*. In return he will receive a receipt from the Registrar which he must show to the examiner when he registers at the examination.

Candidates who have not sent this statement and fee may be admitted to the examinations; in such cases the reports of the results of the examinations may be delayed, and in no case will a report be sent until the fee is received.

Candidates taking examinations in different years shall pay the fee each year.

In September Princeton University will use Comprehensive Examination Papers prepared by the College Entrance Examination Board for candidates under the *old* as well as under the *alternative* method of admission.

NOTE.—By a *Comprehensive Examination Paper* is meant:

1. One that is adapted to such variety of school instruction as exists in the several subjects—that is, these question papers will not prescribe methods but will recognize the general principle that the schools determine how they shall teach a subject and that the college tests results or power.

2. One that is adapted to the different stages of training in the subjects in which they are set—that is, these papers will give boys opportunities to show their power, whether they have had the minimum or the maximum amount of training given in school. For example, the papers in Latin

will be so drawn up as to enable a boy who has had only two years of Latin to show that he has as much command over the language as can be expected from that amount of training, and they will be similarly useful for the boy who has had three or four years of Latin.

In September 1917 the order of examinations will be as follows:

Monday, September 17

8.30 A. M.- 9.00 A. M. Registration of all candidates.

9.00 A. M.-12.00 M. English

2.00 P. M.- 5.00 P. M. Physics
Chemistry

Tuesday, September 18

9.00 A. M.-12.00 M. Latin

2.00 P. M.- 5.00 P. M. French
Spanish

Wednesday, September 19

9.00 A. M.-12.00 M. Mathematics

2.00 P. M.- 5.00 P. M. German

Thursday, September 20

9.00 A. M.-12.00 M. History

2.00 P. M.- 5.00 P. M. Greek

All candidates are expected to appear promptly at the time set for an examination. No candidate will be allowed to enter an examination later than a quarter of an hour after the scheduled time; and no candidate who has seen a question paper will be allowed to leave the examination until half an hour shall have elapsed.

Applicants who have any conditions or other deficiencies

from the June examinations are required to remove them at the September entrance examinations.

Examinations at other than the specified times are granted only under very exceptional circumstances. An applicant for examination at a special time must present a satisfactory reason and obtain permission by writing to the Registrar and must pay into the treasury a fee of \$10 for every subject, or part thereof, in which an examination is set. No special examinations are held outside of Princeton.

Testimonials as to Character

All candidates for admission to any class, or as special students, must bring with them satisfactory testimonials of good moral character, preferably from their last instructor; and if the candidate has been a member of another college, university, or similar institution, he must produce a letter of honorable dismissal from the President or Faculty of his former institution.

No candidate is admitted into the undergraduate department in regular class standing without examination and a vote of the Faculty.

METHODS OF ADMISSION

For admission to the freshman class a candidate must satisfy the requirements of one of the two methods described below:

I. OLD METHOD OF ADMISSION OPEN TO ALL CANDIDATES

(1) A candidate must pass satisfactorily written examinations in all of the subjects required for admission, as enumerated on pages 24 to 27 of this booklet. He may, however, be admitted conditionally if he is deficient in a small part only of the subjects required.

(2) Each applicant for admission should be provided

with a statement, signed by his teacher, as to his fitness to be examined in each of the subjects which he offers. This statement is for the information of the examiners, and is in no sense an admission certificate. Blank forms may be obtained from the Registrar.

[*Preliminary Examination*]

(3) At the examinations in June and September, candidates for admission to the freshman class at some later time are admitted to examination in a portion of the subjects required for entrance. Each candidate for preliminary examination must present a certificate, signed by his teacher, stating that he is prepared in each of the subjects which he may offer. *No credit will be given for a preliminary examination in any subject in which the candidate is not so certified.*

II. ALTERNATIVE METHOD OF ADMISSION

In addition to the old method of entrance to the freshman class, in courses leading to the bachelor's degrees as well as in the course leading to the degree of Civil Engineer, the following method is open to candidates who have previously obtained permission from the Committee on Entrance.

A candidate for admission under this method may send to the Registrar of Princeton University before May 15 or September 1 a detailed statement, signed by the principal of his school, which shall show the course of study which he has pursued during the past four years and the degree of proficiency which he has attained in each subject. This statement may be submitted on a blank sent upon request by the Registrar, or in some form convenient to the school.

If the Committee on Entrance is satisfied from this statement that the candidate has completed a course of study fitting him for admission to Princeton University, and has

attained a satisfactory degree of proficiency in his studies, the Committee may give him permission to apply for entrance under this plan.

Permission to try these examinations must be obtained from the Princeton Committee on Entrance. An accepted candidate, if he makes previous application to the College Entrance Examination Board, may present himself for examination in June at any of the examination centers of the Board, where he will take the so-called *comprehensive examinations* in the four subjects designated by the Committee. (See p. 10.) In September the examinations will be held in Princeton only. These examinations will be based upon the candidate's work in the four principal subjects which form the prescribed subjects of the old plan, as follows:

A.B.	Sc.B.—Litt.B.	C.E.
English	English	English
Mathematics	Mathematics	Mathematics, including Solid Geometry and Trigonometry
Latin	Latin	French A. or German A. or Latin 3. Second year
Greek	French or German	Physics or Chemistry or History

These examinations will be comprehensive in character, but particular emphasis will be laid upon the later or more advanced portions of the work. A candidate who passes creditably in these four subjects will be admitted to the freshman class without conditions.

Statement of School Record

The statement of the candidate's school record should contain the following information:

(a) The textbooks used in each year of his work in each subject.

(b) The number of weeks devoted each year to each subject.

(c) The number of hours per week devoted each year to each subject.

(d) The grade attained each year in each subject, together with an explanation of the system of marking.

The Examinations

The order of the examinations will be in accordance with the schedule printed above.

Mathematics

The examination will be adapted to the proficiency of those who have had not less than the usual school course, in Algebra AI and AII, and in Plane Geometry; and it will also provide the means by which those who have extended their study of Mathematics to include Solid Geometry, or Logarithms and Trigonometry may exhibit their proficiency in any or all of these branches of Mathematics. There will be two papers, one for those who have had no instruction beyond Elementary Mathematics, and one for those whose instruction has extended beyond. Any one whose instruction has extended beyond Elementary Mathematics will be expected to take the paper containing questions on Advanced Mathematics, and to devote at least half his time to those questions which cover the Advanced Mathematics he has studied. Candidates will find printed upon the examination paper the instructions necessary for their guidance.

English

The examination in English will test the candidate's preparation in the fields covered by the Old Method examinations in 1. Grammar and Composition and 2. Literature. It will

test his ability to write clearly and correctly, and to show that he has read, understood, and appreciated a sufficient amount of English literature. The paper will contain some questions that cannot be answered except by candidates who are able to apply what they have learned to the solution of unexpected problems. In so far as ability to pass the examination may depend upon a knowledge of the subject-matter of books, it will not necessarily depend upon the knowledge of those books prescribed under the Old Method, though no candidate who has been intelligently prepared to attempt the examination under the Old Method should find himself at any disadvantage if he decides to avail himself of the Alternative Method.

Latin

The examination will be adapted to the proficiency of those who have studied Latin in a systematic school course of five lessons each week, extending through two, three or four years.

The paper will include passages of Latin prose and verse of varying degrees of difficulty to be translated at sight, and passages for Latin composition of varying degrees of difficulty. Accompanying the different passages set upon the paper, will be questions on forms, syntax, prosody, and the idioms of the language, as well as questions on the subject matter, literary and historical, connected with the authors usually read in schools.

Each candidate will choose those parts of the paper which are designed to test such proficiency in the language as may properly be acquired in two or more years' study; but a candidate who has studied Latin four years may not select the more elementary parts of the paper.

French

The examination will be adapted to the proficiency of those who have studied French in school for two or three years, respectively.

The paper will include passages of French prose or verse of varying degrees of difficulty to be translated into good English. It will also contain passages in English of varying degrees of difficulty to be translated into French, and questions on grammar. Opportunity will also be given for those who have had special training in French to show their ability to express themselves in that language.

Beginning in 1918, this written examination will be supplemented by the aural tests (x) and (y) to be given only in Princeton in September (See page 38).

German

The examination will be adapted to the proficiency of those who have studied German in school for two or three years, respectively.

The paper will include passages of German prose or verse of varying degrees of difficulty to be translated into good English. It will also contain passages in English of varying degrees of difficulty to be translated into German, and questions on grammar. Opportunity will also be given for those who have had special training in German to show their ability to express themselves in that language.

Beginning in 1918, this written examination will be supplemented by the aural tests (x) and (y) to be given only in Princeton in September (See page 38).

Physics

The examination will be adapted to the proficiency of those who have had such a course of school training in the elementary facts and principles of Physics as is de-

scribed in the definition of Elementary Physics issued by the College Entrance Examination Board. The paper will contain, however, more questions than any one candidate is expected to answer, in which an effort will be made to make due allowance for diversity of instruction.

Chemistry

The examination will be adapted to the proficiency of those who have received systematic instruction in the principles of Chemistry and their applications in a school course in which laboratory experiments are performed by the pupil. * The paper will contain more questions than the candidate is expected to answer, in order to make allowance for diversity of instruction in different schools, and will require the recognition of the phenomena and the laws that are of general significance and the illustration of such phenomena and laws by well-chosen examples. The questions will include not only questions on the chemistry of laboratory practice but also, in an elementary fashion, the chemistry of the household and of industry.

History

The paper will consist of four divisions, made up of questions on Ancient History, Mediaeval and Modern History, English History, and American History. If the candidate has studied but one of these divisions, he will be expected to answer the prescribed questions on that division, one of them being a map question. He will be expected to spend about two hours on these questions. In the remaining hour, he should answer additional questions from the same division. If, on the other hand, the candidate has studied two or more of these divisions, he will be expected to answer, in addition to the prescribed questions on one of these divisions, questions on such other divisions as he may have studied.

In reading the papers, account will be taken of the year of the school programme in which the subject has been studied. As further evidence of a candidate's efficiency, note-books may be submitted.

Greek

The examination will be adapted to the proficiency of those who have studied Greek in a systematic school course of five exercises a week, extending through two or three school years.

The paper will include passages of simple Attic prose, and of Homer, to be translated at sight, and a passage from the first eight chapters of Xenophon's *Anabasis*, upon which questions will be based to afford the candidate means of showing his mastery of the ordinary forms, constructions, and idioms of the language. The paper will also include passages in English to be turned into Greek, and questions on prosody and on the Homeric poems and on Homeric life.

FRESHMEN ENTRANCE REQUIREMENTS

The following entrance requirements are defined for the most part in close accordance with recommendations of the National Education Association and of the College Entrance Examination Board. It is recommended that candidates be prepared for examination on the requirements as specified, but equivalents will be accepted. The University will in all cases be the judge of the equivalence of subjects offered as substitutes for the specified requirements.

There are three regular forms of entrance to the courses leading to degrees in Princeton University, viz.: (1) Entrance for those who offer Greek and are candidates for the degree of A.B. (2) Entrance for those who do not offer Greek and are candidates for the degree of Sc.B. or Litt.B., for which the entrance requirements are identical.

(3) Entrance for those who are candidates for the degree of C.E.

The degree of Bachelor of Science is open to those who concentrate in one of the mathematical or scientific departments during the junior and senior years; the degree of Bachelor of Letters to those who concentrate in one of the departments of philosophical, political, literary, or other humanistic studies.

The freshman entrance requirements for candidates for the various degrees given in course in Princeton University are as follows (the detailed statements of subjects are given on pages 27 to 52):

FRESHMAN ENTRANCE REQUIREMENTS FOR THE COURSES
LEADING TO THE DEGREES OF A.B., SC.B., AND LITT.B.

Every candidate must offer all the subjects in one of the following lists:

A.B. COURSE	Sc.B.—Litt.B. COURSE
GREEK	MODERN LANGUAGES: Either
B. Xenophon } G. Sight Translation of Prose } *	French A. Elementary or
C. Homer, Iliad Bks. I-III	German A. Elementary or
A 1. Grammar } A 2. Elementary Prose Com- } * position	Spanish A. Elementary
LATIN	LATIN
3. Second Year Latin	3. Second Year Latin
2. Elementary Prose Com- } position } *	2. Elementary Prose Com- } position } *
4. Cicero and Sight Transla- } tion of Prose } *	4. Cicero and Sight Transla- } tion of Prose } *
5. Vergil and Sight Transla- tion of Poetry	5. Vergil and Sight Transla- tion of Poetry

* Bracketed subjects should be taken together as a single part of the whole subject.

ENGLISH

1. Grammar and Composition
2. Literature

ENGLISH

1. Grammar and Composition
2. Literature

MATHEMATICS

- A 1. Algebra to Quadratics
- A 2. Algebra, Quadratics and beyond
- C. Plane Geometry

MATHEMATICS

- A 1. Algebra to Quadratics
- A 2. Algebra, Quadratics and beyond
- C. Plane Geometry

In addition to the prescribed subjects named above, every candidate must offer such a selection of subjects from the following list that the sum of values assigned (in parentheses) to the several subjects shall amount to not less than five for the A.B. candidate, and not less than seven for the Sc.B.-Litt.B. candidate. But no candidate may offer more than two of the four subjects in History:

HISTORY: Not more than *two* of

- A. Ancient History (1)
- B. Mediaeval and Modern European History (1)
- C. English History (1)
- D. American History and Civil Government (1)

MODERN LANGUAGES

- French A. Elementary (4), if not offered in the list of prescribed subjects
- French B. Intermediate (2)
- German A. Elementary (4), if not offered in the list of prescribed subjects
- German B. Intermediate (2)
- Spanish A. Elementary (4), if not offered in the list of prescribed subjects

MATHEMATICS

- D. Solid Geometry (1)
- F. Plane Trigonometry (1)

SCIENCE

- Physics (2)
- Chemistry (2)

FRESHMAN ENTRANCE REQUIREMENTS FOR THE COURSE
LEADING TO THE DEGREE OF C.E.

[*N. B.—No student will be admitted to regular standing in the C.E. freshman class who has failed to pass all the mathematical subjects required for entrance; and no student who has any deficiency in mathematics will be admitted even on trial unless this deficiency is slight and the quality of his work in other subjects required for entrance is high.*]

Every candidate for admission to the C.E. course must offer the following subjects:

ENGLISH

1. Grammar and Composition
2. Literature

FOREIGN LANGUAGES: Any two of the four languages

Latin 3. Second Year

French A. Elementary

German A. Elementary

Spanish A. Elementary

MATHEMATICS

A 1. Algebra to Quadratics

A 2. Algebra, Quadratics and beyond

C. Plane Geometry

D. Solid Geometry

F. Plane Trigonometry

SCIENCE: Either

Physics, or

Chemistry

In addition to the prescribed subjects above, every candidate for the C.E. course must offer such a selection of subjects from the following list that the sum of the values assigned (in parentheses) to the several subjects shall amount to not less than five. But no candidate may offer more than two of the four subjects in History.

HISTORY

A. Ancient History (1)

B. Mediaeval and Modern European History (1)

C. English History (1)

D. American History and Civil Government (1)

FOREIGN LANGUAGES

3. Second Year Latin (4), if not offered in the list of prescribed subjects
 2. Elementary Prose Composition } (2)*
 4. Cicero and Sight Translation }
 5. Vergil and Sight Translation (2)
- French A. Elementary (4), if not offered in the list of prescribed subjects
- French B. Intermediate (2)
- German A. Elementary (4), if not offered in the list of prescribed subjects
- German B. Intermediate (2)
- Spanish A. Elementary (4), if not offered in the list of prescribed subjects

SCIENCE

- Physics (2), if not offered in the list of prescribed subjects
- Chemistry (2), if not offered in the list of prescribed subjects

[It is recommended that all candidates should receive instruction in free-hand drawing before entrance.]

FRESHMAN ENTRANCE SUBJECTS

HISTORY

The requirements in History are based on the recommendations of the Committee of Seven of the American Historical Association.

A. *Ancient History*, with special reference to Greek and Roman history, and including also a short introductory study of the more ancient nations and the chief events of the early Middle Ages, down to the death of Charlemagne (814).

B. *Mediaeval and Modern European History*, from the death of Charlemagne to the present time.

C. *English History*.

D. *American History and Civil Government*.

The examinations in history will be framed so as to require the use of both judgment and memory on the pupil's part. They will presuppose the use of good textbooks,

* Bracketed subjects should be taken together as a single part of the whole subject.

collateral reading, and practice in written work. Geographical knowledge will be tested by means of an outline map.

The Report of the Committee of Seven, which appeared in the Proceedings of the American Historical Association for 1898, was published separately under the title *Study of History in Schools* by The Macmillan Company in 1899. It was incorporated in the Report made to the National Education Association in 1899 by the Committee on College Entrance Requirements.

The attention of teachers is called also to the report of the Committee of Five of the American Historical Society, *The Study of History in Secondary Schools* (New York, The Macmillan Company, 1911). The examiners of the Board will endeavor to frame the examination papers *on the four fields of work defined above* in accordance with the recommendations of this committee.

GREEK

The following requirements in Greek conform as closely as possible to the recommendations of the Committee of Twelve of the American Philological Association.

A1. Grammar: The inflections; the simpler rules for composition and derivation of words; syntax of cases and the verbs; structure of sentences in general, with particular regard to relative and conditional sentences, indirect discourse, and the subjunctive.†

A2. Elementary Prose Composition, consisting principally of detached sentences to test the candidate's knowledge of grammatical constructions.†

The examinations in grammar and prose composition will be based on the first two books of Xenophon's *Anabasis*.

B. Xenophon: The first four books of the *Anabasis*.*

† Greek A1 and A2 should be taken together as constituting a single indivisible subject.

* Greek B and G should be taken together as constituting a single indivisible subject.

C. *Homer: Iliad*, I-III: The first three books of the *Iliad* (omitting II, 494-end), and the Homeric constructions, form, and prosody.

G. *Sight Translation of Prose* of no greater difficulty than Xenophon's *Anabasis*.*

LATIN

The following requirements in Latin are in accordance with the recommendations made to the American Philological Association by the Commission on College Entrance Requirements in Latin, October, 1909.†

I. *Amount and Range of the Reading Required*

(1) The Latin reading, without regard to the prescription of particular authors and works, shall be not less *in amount* than Caesar: *Gallic War*, I-IV; Cicero: the Orations against Catiline, for the Manilian law, and for Archias; Vergil: *Æneid*, I-VI.

(2) The amount of reading specified above shall be selected by the schools from the following authors and works: Cæsar (*Gallic War* and *Civil War*) and Nepos (*Lives*); Cicero (Orations, Letters, and *De Senectute*) and Sallust (*Cataline* and *Jugurthine War*); Vergil (*Bucolics*, *Georgics*, and *Æneid*) and Ovid (*Metamorphoses*, *Fasti*, and *Tristia*).

II. *Scope of the Examinations*

(1) *Translation at Sight*. Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

* Greek B and G should be taken together as constituting a single indivisible subject.

† This Commission and its work are described in the Tenth Annual Report of the Secretary of the College Entrance Examination Board, pages 4-7.

(2) *Prescribed Reading.* Candidates will be examined also upon the following prescribed reading: Cicero: Orations for the Manilian Law and for Archias; and Vergil: *Æneid*, I, II and either IV or VI, at the option of the candidate; with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

(3) *Grammar and Composition.* The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose.

Suggestions Concerning Preparation

Exercises in translation at sight should begin in school with the first lessons in which Latin sentences of any length occur, and should continue throughout the course with sufficient frequency to insure correct methods of work on the part of the student. From the outset particular attention should be given to developing the ability to take in the meaning of each word—and so, gradually, of the whole sentence—just as it stands; the sentence should be read and understood in the order of the original, with full appreciation of the force of each word as it comes, so far as this can be known or inferred from that which has preceded, and from the form and the position of the word itself. The habit of reading in this way should be encouraged and cultivated as the best preparation for all the translating that the student has to do. No translation, however, should be a mechanical metaphor. Nor should it be a mere loose paraphrase. The full meaning of the

passage to be translated, gathered in the way described above, should finally be expressed in clear and natural English.

A written examination cannot test the ear or tongue, but proper instruction in any language will necessarily include the training of both. The school work in Latin, therefore, should include much reading aloud, writing from dictation, and translation from the teacher's reading. Learning suitable passages by heart is also very useful, and should be more practised.

The work in composition should give the student a better understanding of the Latin he is reading at the time, if it is prose, and greater facility in reading. It is desirable, however, that there should be systematic and regular work in composition during the time in which poetry is read as well; for this work the prose authors already studied should be used as models.

Subjects for Examination

2. *Elementary Prose Composition.* The examination will presuppose the reading of the required amount of prose (See I, 1 and 2), including the prose works prescribed (See II, 2).*

3. *Second Year Latin.* This examination covers two years' work in Latin and will presuppose reading not less in amount than Cæsar: *Gallic War*, I-IV, selected by the schools from Cæsar (*Gallic War* and *Civil War*) and Nepos (*Lives*); but the passages set will be chosen with a view to sight translation. The paper will include easy grammatical questions and some simple composition.

4. *Cicero* (Orations for the Manilian Law and for Archias) and *Sight Translation of Prose.* The examination

* Latin 2 and 4 should be taken together as constituting a single indivisible subject. A combined paper including Latin 1 (Grammar), 2 (Composition), and 4 (Cicero and Sight Translation of Prose) will be offered in June, 1917, for such candidates as may wish to take all three subjects at one examination. Three hours will be given to this combined paper.

will presuppose the reading of the required amount of prose (See I, 1 and 2).*

5. *Vergil* (*Æneid*, I, II, and either IV or VI, at the option of the candidate) and *Sight Translation of Poetry*. The examination will presuppose the reading of the required amount of poetry (See I, 1 and 2).

ENGLISH

The requirement in English is that recommended by the National Conference on Uniform Entrance Requirements in English.

REQUIREMENT FOR 1915-1919

The study of English in school has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

Grammar and Composition

The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences, and paragraphs should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise letter-writing, narration, description, and easy exposition and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by con-

* Latin 2 and 4 should be taken together as constituting a single indivisible subject.

certed effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

Literature

The second object is sought by means of two lists of books, headed respectively READING and STUDY, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history.

A. Reading

The aim of this course is to foster in the student the habit of intelligent reading and to develop a taste for good literature, by giving him a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under Group I.

GROUP I—CLASSICS IN TRANSLATION

The *Old Testament*, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther.

The *Odyssey*, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII.

The *Iliad*, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI.

The *Æneid*.

The *Odyssey*, *Iliad*, and *Æneid* should be read in English translations of recognized literary excellence.

For any selection from this group a selection from any other group may be substituted.

GROUP II—SHAKESPEARE

Midsummer Night's Dream; *Merchant of Venice*; *As You Like It*; *Twelfth Night*; *The Tempest*; *Romeo and Juliet*; *King John*; *Richard II*; *Richard III*; *Henry V*; *Coriolanus*, [*Julius Caesar*; *Macbeth*; *Hamlet*, if not chosen for study under B.]

GROUP III—PROSE FICTION

Malory: *Morte d'Arthur* (about 100 pages); Bunyan: *Pilgrim's Progress*, Part I; Swift: *Gulliver's Travels* (voyages to Lilliput and to Brobdingnag); Defoe: *Robinson Crusoe*, Part I; Goldsmith: *Vicar of Wakefield*; Frances Burney: *Evelina*; Scott's Novels, any one; Jane Austen's Novels, any one; Maria Edgeworth: *Castle Rackrent*, or *The Absentee*; Dickens' Novels, any one; Thackeray's Novels, any one; George Eliot's Novels, any one; Mrs. Gaskell: *Cranford*; Kingsley: *Westward Ho!* or *Hereward the Wake*; Reade: *The Cloister and the Hearth*; Blackmore: *Lorna Doone*; Hughes: *Tom Brown's Schooldays*; Stevenson: *Treasure Island*, or *Kidnapped*, or *Master of Ballantrae*; Cooper's Novels, any one; Poe: Selected Tales; Hawthorne: *The House of the Seven Gables*, or *Twice Told Tales*, or *Mosses from an Old Manse*; A collection of *Short Stories* by various standard writers.

GROUP IV—ESSAYS, BIOGRAPHY, ETC.

Addison and Steele: *The Sir Roger de Coverley Papers*, or Selections from the *Tatler* and *Spectator* (about 200 pages); Boswell: Selections from the *Life of Johnson* (about 200 pages); Franklin: *Autobiography*; Irving: Selections from the *Sketch Book* (about 200 pages), or *Life of Goldsmith*; Southey: *Life of Nelson*; Lamb: Selections from the *Essays of Elia* (about 100 pages); Lockhart: Selections from the *Life of Scott* (about 200 pages); Thackeray: Lectures on *Swift*, *Addison*, and *Steele* in the *English Humorists*; Macaulay: any one of the following essays: *Lord Clive*, *Warren Hastings*, *Milton*, *Addison*, *Goldsmith*, *Frederic the Great*, *Madame d'Arblay*; Trevelyan: Selections from the *Life of Macaulay* (about 200 pages); Ruskin: *Sesame and Lilies*, or *Selections* (about 150 pages); Dana: *Two Years before the Mast*; Lincoln: Selections, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley, together with a brief memoir or estimate of Lincoln; Parkman: *The Oregon Trail*; Thoreau: *Walden*; Lowell: *Selected Essays* (about 150 pages); Holmes: *The Autocrat of the Breakfast Table*; Stevenson: *An Inland Voyage* and *Travels with a Donkey*; Huxley: *Autobiography* and selections from *Lay Sermons*, including the addresses on *Improving Natural Knowledge*, *A Liberal Education*, and *A Piece of Chalk*; A collection of *Essays* by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers; A collection of *Letters* by various standard writers.

GROUP V—POETRY

Palgrave: *Golden Treasury* (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave: *Golden Treasury* (First

Series), Book IV, with special attention to Wordsworth, Keats, and Shelley (if not chosen for study under B); Goldsmith: *The Traveller* and *The Deserted Village*; Pope: *The Rape of the Lock*; A collection of English and Scottish *Ballads*, as, for example, some *Robin Hood* ballads. *The Battle of Otterburn*, *King Estmere*, *Young Beichan*, *Bewick and Grahame*, *Sir Patrick Spens*, and a selection from later ballads; Coleridge: *The Ancient Mariner*, *Christabel*, and *Kubla Khan*; Byron: *Childe Harold*, Canto III or IV, and *The Prisoner of Chillon*; Scott: *The Lady of the Lake*, or *Marmion*; Macaulay: *The Lays of Ancient Rome*, *The Battle of Naseby*, *The Armada*, *Ivry*; Tennyson: *The Princess*, or *Gareth and Lynette*, *Lancelot and Elaine*, and *The Passing of Arthur*; Browning: *Cavalier Tunes*, *The Lost Leader*, *How They Brought the Good News from Ghent to Aix*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *Incident of the French Camp*, *Hervé Riel*, *Pheidippides*, *My Last Duchess*, *Up at a Villa—Down in the City*, *The Italian in England*, *Patriot*, *The Pied Piper*, “*De Gustibus*”—, *Instans Tyrannus*; Arnold: *Sohrab and Rustum*, and *The Forsaken Merman*; Selections from American Poetry, with special attention to Poe, Lowell, Longfellow, and Whittier.

B. Study

This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. The books provided for study are arranged in four groups, from each of which one selection is to be made.

GROUP I—DRAMA

Shakespeare: *Julius Caesar*, or *Macbeth*, or *Hamlet*.

GROUP II—POETRY

Milton: *L'Allegro*, *Il Penseroso*, and either *Comus* or *Lycidas*; Tennyson: *The Coming of Arthur*, *The Holy Grail*, and *The Passing of Arthur*; The selections from Wordsworth, Keats, and Shelley in Book IV of Palgrave's *Golden Treasury* (First Series).

GROUP III—ORATORY

Burke: *Speech on Conciliation with America*; Macaulay's two *Speeches on Copyright* and Lincoln's *Speech at Cooper Union*; Washington's *Farewell Address* and Webster's *First Bunker Hill Oration*.

GROUP IV—ESSAYS

Carlyle: *Essay on Burns*, with a selection from Burns's *Poems*; Macaulay: *Life of Johnson*; Emerson: *Essay on Manners*.

Examination

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

The examination will be divided into two parts:

I. GRAMMAR AND COMPOSITION

In grammar and composition, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English which one should know in distinction from current errors. The main test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from the

books read, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose the examiner will provide several subjects, perhaps eight or ten, from which the candidate may make his own selections. He will not be expected to write more than four hundred words an hour.

2. LITERATURE

The examination in literature will include:

A. General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined above under *A. READING*. The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but the books named in this list will not be made the basis of detailed questions†.

B. A test on the books prescribed under *B. STUDY* above, which will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

MODERN LANGUAGES

N. B.—In 1918 and thereafter, the Princeton entrance requirements in the modern languages will include, in addition to the June and September written examinations, aural tests in German, French, and Spanish to be given only in Princeton in September:

1. An aural test in Elementary German, French, and

† A suitable blank form of certificate may be obtained from the Secretary of the College Entrance Examination Board upon application.

Spanish to be designated German (x), French (x), and Spanish (x).

2. An aural test in Intermediate German, French, and Spanish to be designated German (y), French (y), and Spanish (y).

All candidates offering German, French or Spanish for admission will be required to take these tests. Announcement in regard to their time and place will be made in the Examination Schedule for September, 1918.

In rating Elementary and Intermediate German, French or Spanish, a candidate's grade on these aural tests will be reckoned as an integral part of his final grade in the subject.

Candidates who pass the written part of the examination but fail to pass the aural part will not be re-examined in the former. Candidates who fail in the written part of the examination, but pass only the aural part, must be re-examined in both parts.

DESCRIPTION OF AURAL TESTS

These aural tests are to be considered supplementary to the present entrance examinations in the modern languages. They do not contemplate an increase either in the length of time or the amount of work devoted in school to preparation for the present entrance requirements in German, French, and Spanish but are introduced with the view of encouraging the secondary schools to lay greater emphasis on pronunciation and ultimately of requiring an oral test in the modern languages for admission.

1. The aural test (x) in the Elementary requirement will be not more than forty-five minutes in length and will consist of three parts: (1) an exercise in writing easy German, French, or Spanish prose from dictation; (2) the reproduction in English of the content of a short "sight" passage in easy German, French or Spanish prose, read aloud by the examiner; (3) writing in German, French, or Spanish

answers to questions put by the examiner in that language on a short connected passage, read aloud by the examiner just before the questions are asked.

2. The aural test (y) in the Intermediate requirement will likewise be not more than forty-five minutes in length and will consist of three parts: (1) an exercise in writing moderately difficult German, French, or Spanish from dictation; (2) the written reproduction in German, French, or Spanish of the content of a short "sight" passage of ordinary narrative German, French, or Spanish read aloud by the examiner; (3) writing in the respective language answers to questions put by the examiner in German, French or Spanish on a connected prose passage, read aloud by the examiner just before the questions are asked.

GERMAN

The requirements in German follow the recommendations of the Committee of Twelve of the Modern Language Association of America.*

A. Elementary German

THE AIM OF THE INSTRUCTION

At the end of the elementary course in German the pupil should be able to read at sight, and to translate, if called upon, by way of proving ability to read, a passage of very easy dialogue or narrative prose, help being given upon unusual words and construction, to put into German short English sentences taken from the language of every-day life or based upon the text given for translation, and to answer questions upon the rudiments of the grammar, as defined below.

* The report of the Committee of Twelve, which was submitted in December, 1898, may be obtained in separate book-form from D. C. Heath & Co. The lists of texts at present given in the requirements of the College Entrance Examination Board were recommended by a committee of the Modern Language Association in December, 1910.

THE WORK TO BE DONE

During the first year the work should comprise :

1. Careful drill upon pronunciation.
2. Writing German from dictation.
3. The memorizing and frequent repetition of easy colloquial sentences.

4. Drill upon the rudiments of grammar, that is, upon the inflection of the articles, of such nouns as belong to the language of every day life, of adjectives, pronouns, weak verbs and the more usual strong verbs; also upon the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word-order.

5. Abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression.

6. The reading of from 75 to 100 pages of graduated texts from a reader, with constant practice in translating into German easy variations upon sentences selected from the reading lesson (the teacher giving the English), and in the reproduction from memory of sentences previously read.

Among suitable texts for the first year* are: After one of the many Readers especially prepared for beginners,—Meissner: *Aus meiner Welt*; Blüthgen: *Das Peterle von Nürnberg*; Storm: *Immensee*, or any of Baumbach's short stories.

During the second year the work should comprise :

1. The reading of from 150 to 200 pages of literature in the form of easy stories and plays.

2. Accompanying practice, as before, in the translation into German of easy variations upon the matter read and also in the off-hand reproduction, sometimes orally and

* During each year at least six German poems should be committed to memory.

sometimes in writing, of the substance of short and easy selected passages.

3. Continued drill upon the rudiments of the grammar, directed to the ends of enabling the pupil, first, to use his knowledge with facility in the formation of sentences, and, second, to state his knowledge correctly in the technical language of grammar.

4. Writing German from dictation.

Among suitable texts for the second year are: Gerstaecker: *Germelshausen*; Eichendorff: *Aus dem Leben eines Taugenichts*; Wildenbruch: *Das edle Blut*; Jensen: *Die braune Erica*; Seidel: *Leberecht Hühnchen*; Fulda: *Unter vier Augen*; Benedix: *Lustspiele* (any one). For students preparing for a scientific school a scientific reader is recommended.

For the description of the aural test in German see page 38.

B. Intermediate German

THE AIM OF THE INSTRUCTION

At the end of the intermediate course the pupil should be able to read at sight German prose of ordinary difficulty, whether recent or classical; to put into German a connected passage of simple English, paraphrased from a given text in German; to answer any grammatical questions relating to usual forms and essential principles of the language, including syntax and word-formation, and to translate and explain (so far as explanation may be necessary) a passage of classical literature taken from some text previously studied.

THE WORK TO BE DONE

The work should comprise, in addition to the elementary course, the reading of about 400 pages of moderately difficult prose and poetry, with constant practice in giving, some-

times orally and sometimes in writing, paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; also grammatical drill upon the less usual strong verbs, the use of articles, cases, auxiliaries of all kinds, tenses and modes (with special reference to the infinitive and subjunctive), and likewise upon word-order and word-formation.

Among suitable texts for the third year are: Heyse's, Riehl's, Keller's, Storm's Meyer's, Ebner-Eschenbach's, W. Raabe's *Novellen* or *Erzählungen*; Schiller: *Wilhelm Tell*; Freytag: *Die Journalisten*; Heine: *Harzreise*.

For the description of the aural test in German see page 38.

FRENCH

The requirements in French follow the recommendations of the Committee of Twelve of the Modern Language Association of America.*

A. Elementary French

THE AIM OF THE INSTRUCTION

At the end of the elementary course the pupil should be able to pronounce French accurately, to read at sight easy French prose, to put into French simple English sentences taken from the language of every-day life or based upon a portion of the French text read, and to answer questions on the rudiments of the grammar as defined below.

THE WORK TO BE DONE

During the first year the work should comprise:

1. Careful drill in pronunciation.
2. The rudiments of grammar, including the inflection of the regular and the more common irregular verbs, the plural

* The report of the Committee of Twelve, which was submitted in December, 1898, may be obtained in separate book-form from D. C. Heath & Co. The lists of texts at present given in the requirements of the College Examination Board were recommended by a committee of the Modern Language Association in December, 1910.

nouns, the inflection of adjectives, participles, and pronouns; the use of personal pronouns, common adverbs, prepositions, and conjunctions; the order of words in the sentence, and the elementary rules of syntax.

3. Abundant easy exercises, designed not only to fix in the memory the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression.

4. The reading of from 100 to 175 duodecimo pages of graduated texts, with constant practice in translating into French easy variations of the sentences read (the teacher giving the English) and in reproducing from memory sentences previously read.

5. Writing French from dictation.

Among suitable texts for the first year are: A well graded reader for beginners; Bruno: *Le tour de la France*; Compayré: *Yvan Gall*; Laboulaye: *Contes bleus*; Malot: *Sans famille*.

During the second year the work should comprise:

1. The reading of from 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches.

2. Constant practice, as in the previous year, in translating into French easy variations upon the texts read.

3. Frequent abstracts, sometimes oral and sometimes written, of portions of the text already read.

4. Writing French from dictation.

5. Continued drill upon the rudiments of grammar, with constant application in the construction of sentences.

6. Mastery of the forms and use of pronouns, pronominal adjectives, of all but the rare irregular verb forms, and of the simpler uses of the conditional and subjunctive.

Among suitable texts for the second year are: Daudet: *Le Petit Chose*; Erckmann—Chatrian: stories; Halévy: *L'Abbé*

Constantin; Labiche et Martin: *Le voyage de M. Perrichon*; Lavis: *Histoire de France*.

For the description of the aural test in French see page 38.

B. Intermediate French

THE AIM OF THE INSTRUCTION

At the end of the intermediate course the pupil should be able to read at sight ordinary French prose or simple poetry, to translate into French a connected passage of English based on the text read, and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

THE WORK TO BE DONE

This should comprise the reading of from 400 to 600 pages of French of ordinary difficulty, a portion to be in the dramatic form; constant practice in giving French paraphrases, abstracts or reproductions from memory of selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

Among suitable texts for the third year are: Bazin: *Les Oberlé*; Dumas: novels; Mérimée: *Colomba*; Sandeau: *Mlle. de la Seiglière*; Tocqueville: *Voyage en Amérique*.

For the description of the aural test in French see page 38.

SPANISH

The requirement in Spanish, which follows the form and spirit of the recommendations made for French and German by the Committee of Twelve of the Modern Language Association, is based upon recommendations made by a committee of that Association in December, 1910.

A. Elementary Spanish

THE AIM OF THE INSTRUCTION

At the end of the elementary course the pupil should be able to pronounce Spanish accurately, to read at sight easy Spanish prose, to put into Spanish simple English sentences taken from the language of every-day life or based upon a portion of the Spanish text read, and to answer questions on the rudiments of the grammar, as indicated below.

THE WORK TO BE DONE

During the first year the work should comprise:

1. Careful drill in pronunciation.
2. The rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax.
3. Exercises containing illustrations of the principles of grammar.
4. The careful reading and accurate rendering into good English of about 100 pages of easy prose and verse, with translation into Spanish of easy variations of the sentences read.

5. Writing Spanish from dictation.

During the second year the work should comprise:

1. The reading of about 200 pages of prose and verse.
2. Practice in translating Spanish into English, and English variations of the text into Spanish.
3. Continued study of the elements of grammar and syntax.
4. Mastery of all but the rare irregular verb forms and of the simpler uses of the moods and tenses.
5. Writing Spanish from dictation.
6. Memorizing of easy short poems.

The emphasis should be placed on careful, thorough work

with much repetition rather than upon rapid reading. The reading should be selected from the following: A collection of easy short stories and lyrics, carefully graded; Juan Valera: *El pájaro verde*; Perez Escrich: *Fortuna*; Ramos Carrión and Vital Aza: *Zaragüeta*; Palacio Valdés: *José*; Pedro de Alarcón: *El Capitán Veneno*; the selected short stories of Pedro de Alarcón or Antonio de Trueba.

Every secondary school in which Spanish is taught should have in its library several Spanish-English and English-Spanish dictionaries, the all-Spanish dictionary of the Royal Spanish Academy; one or more manuals of the history of Spanish literature, such as that by Fitzmaurice-Kelly, and Ticknor's *History of Spanish Literature*.

For the description of the aural test in Spanish see page 38.

MATHEMATICS

The present definition of the requirements in Mathematics is in accordance with recommendations made in September, 1903, by a committee of the American Mathematical Society.*

Algebra to Quadratics, A I. The four fundamental operations for rational algebraic expressions, factoring, determination of highest common factor and lowest common multiple by factoring. Fractions, including complex fractions and ratio and proportion. Linear equations, both numerical and literal, containing one or more unknown quantities. Problems depending on linear equations. Radicals, including the extraction of the square root of polynomials and of numbers. Exponents, including the fractional and negative.

Quadratics and Beyond, A II. Quadratic equations, both numerical and literal. Simple cases of equations with one or more unknown quantities, that can be solved by the

* The report of the Committee of the American Mathematical Society on Entrance Requirements in Mathematics was published in the *Bulletin* of the American Mathematical Society for November, 1903, vol. IX, no. 2.

methods of linear or quadratic equations. Problems depending on quadratic equations. The binomial theorem for positive integral exponents. The formulas for the n th term and the sum of the terms of arithmetical and geometrical progressions, with applications.

It is assumed that pupils will be required throughout the course to solve numerous problems which involve putting questions into equations. Some of these problems should be chosen from mensuration, from physics, and from commercial life. The use of graphical methods and illustrations, particularly in connection with the solution of equations, is also expected.

C. Plane Geometry. The usual theorems and constructions of good textbooks,* including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons and the measurement of the circle. The solution of numerous original exercises, including loci problems. Applications to the mensuration of lines and plane surfaces.

D. Solid Geometry. The usual theorems and constructions of good textbooks,* including the relations of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle. The solution of numerous original exercises, including loci problems. Applications to the mensuration of surfaces and solids.

F. Plane Trigonometry. Definitions and relations of the six trigonometric functions as ratios; circular measurement of angles. Proofs of principal formulas, in particular for the sine, cosine, and tangent of the sum and the difference of two angles, of the double angle and the half angle, the

* The Board's examination questions in plane and solid geometry will be limited to propositions contained in the syllabus prepared by the National Committee of Fifteen appointed by the American Federation of Teachers of the Mathematical and Natural Sciences and the National Education Association, and to originals based on them. The Report of the Committee was published in *The Mathematics Teacher* for December, 1912. Reprints of the Report may be obtained *gratis* upon application to the Commissioner of Education, Department of the Interior, Washington, D. C.

product expressions for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulas. Solution of trigonometric equations of a simple character. Theory and use of logarithms (without the introduction of work involving infinite series). The solution of right and oblique plane triangles.

PHYSICS

The present definition of the requirement in Physics was framed by a commission appointed for the purpose by the College Entrance Examination Board in co-operation with other associations.*

General Statement

1. The course of instruction in Physics should include:

(a) The study of one standard textbook, for the purpose of obtaining a connected and comprehensive view of the subject. The student should be given opportunity and encouragement to consult other scientific literature.

(b) Instruction by lecture-table demonstrations, to be used mainly for illustration of the facts and phenomena of physics in their qualitative aspects and in their practical applications.

(c) Individual laboratory work consisting of experiments requiring at least the time of 30 double periods, two hours in the laboratory to be counted as equivalent to one hour of class-room work. The experiments performed by each student should number at least 30. The work should be so distributed as to give a wide range of observation and practice.† Princeton University does not require that a candidate offering Physics shall have done laboratory work in that

* The commission and its work was described in the Ninth Annual Report of the Secretary of the College Entrance Examination Board, pages 4-12.

† On request the Secretary of the College Entrance Examination Board will furnish a pamphlet containing the list of topics deemed fundamental and the list of experiments suitable for laboratory work in Physics.

subject. It strongly advises all candidates to do laboratory work when it is possible for them to do it.

The aim of laboratory work should be to supplement the pupil's fund of concrete knowledge and to cultivate his power of accurate observation and clearness of thought and expression. The exercises should be chosen with a view to furnishing forceful illustrations of fundamental principles and their practical applications. They should be such as yield results capable of ready interpretation, obviously in conformity with theory, and free from the disguise of unintelligible units.

Slovenly work should not be tolerated, but the effort for precision should not lead to the use of apparatus or processes so complicated as to obscure the principle involved.

2. Throughout the whole course special attention should be paid to the common illustrations of physical laws and to their industrial applications.

3. In the solution of numerical problems, the student should be encouraged to make use of the simple principles of algebra and geometry to reduce the difficulties of solution. Unnecessary mathematical difficulties should be avoided and care should be exercised to prevent the student from losing sight of the concrete facts in the manipulation of symbols.

N.B. *In lieu of the presentation of a laboratory notebook hitherto required of students who have done laboratory work, Princeton University will hereafter accept the submission of a laboratory certificate signed by the candidate's teacher, describing the work done. In June this certificate should be sent to the Secretary of the College Entrance Examination Board who, on request, will furnish a blank form suitable for the purpose. In September it should be sent to the Registrar of Princeton University.*

CHEMISTRY

The requirement in chemistry is divided into two parts:

Part I contains a minimum list of essential topics. In the examination papers there will be no optional questions on this part, and these questions will count sixty (60) per cent.

Part II is supplementary, and provides for a more extended programme along three main lines, namely:

- (a) Descriptive chemistry.
- (b) Chemical principles or theories.
- (c) Applications of chemistry in the household or in the arts.

This part of the examination paper offers a choice of questions and will count forty (40) per cent. In his answers the candidate must confine himself to two out of three groups of questions.

The teacher may thus devote the time to any two of the three groups indicated, and so adapt his course to local conditions or personal preference. It should be clearly recognized that thoroughness in teaching must not be sacrificed to an attempt to cover the topics named in all three of the groups.

It is required that the candidate's preparation in chemistry should include:

1. Individual laboratory work, comprising at least forty exercises selected from a list of sixty or more, not very different from the list suggested by the College Entrance Examination Board.

2. Instruction by lecture-table demonstrations, to be used mainly as a basis for questioning upon the general principles involved in the pupil's laboratory investigations.

3. The study of at least one standard textbook to the end that the pupil may gain a comprehensive and connected view of the most important facts and laws of elementary chemistry.

Teachers of chemistry preparing candidates to enter the University, or the candidates themselves, are advised to write to the Secretary of the College Entrance Examination Board for a *pamphlet, which will give full information as to all the requirements in chemistry.*

N.B. *In lieu of the presentation of a laboratory notebook hitherto required, Princeton University will hereafter require the submission of a laboratory certificate, signed by the candidate's teacher, describing the work done. No credit will be given for the examination in chemistry unless accompanied by such a certificate. In June this certificate should be sent to the Secretary of the College Entrance Examination Board, who, on application, will furnish a blank form suitable for the purpose. In September it should be sent to the Registrar of Princeton University.*

ASIATIC STUDENTS

Any candidate for admission who is a native of Asia, and not of American or European parentage, may offer, as a substitute for the regular requirement in Latin an equivalent in Arabic, Chinese, Sanskrit, or Pali. A candidate who wishes to make this substitution should notify the Registrar not later than March 1 of the year in which he plans to enter.

ADMISSION TO SPECIAL COURSES

In exceptional cases students are admitted to the privileges of the University, not as members of any one of the four regular classes or as candidates for a degree, and are allowed to take special undergraduate courses, selected under the direction of the Faculty, in such a manner as to secure as full an employment of their time as in the regular course. Such special students are subject to the same regulations and discipline and to the same examinations in the studies pursued as other undergraduates. Any one desiring to enter as a special student is expected to take the regular

entrance examinations upon the subjects prerequisite to his courses and to pass a sufficient number of subjects to show that he has an amount of preparation equivalent to that required of regular students. These special courses, however, are not offered to those who attempt to enter the regular course and fail to do so, nor to those who have failed in the regular course.

When special students are finally leaving the University, certificates of proficiency, signed by the President and Registrar, may be granted them on report by the Committee on Examinations and Standing that they have completed the courses on their schedule.

STUDENTS PURSUING PARTIAL COURSES

Properly qualified persons may be admitted to one or more undergraduate courses in the University. Such students shall be entered as undergraduates in the catalogue under the caption, Students Pursuing Partial Courses. The regular charge is \$20.00 per course each term, but in accordance with a reciprocal arrangement between the University and Princeton Theological Seminary, duly qualified students of either institution are admitted without charge for tuition to the privileges of the other.

ADMISSION FROM OTHER COLLEGES

A candidate coming from another college to which he was admitted by certificate will be held for the Princeton freshman entrance requirements in each subject in which his standing in his former college was not in the upper half of his class. Such of these requirements as are not satisfied by examination at the time of admission must be satisfied in accordance with the rules which apply to students regularly admitted upon examination.

The candidate's credits for courses taken in the college

from which he comes will be accepted in so far as these courses are equivalent to courses given at Princeton. If his credits show that he has an amount of preparation equivalent to that required of a regular freshman, he will be admitted and will be classified as a Student Qualifying for Regular Standing. He will be assigned to those courses for which he is qualified, preference being given to such of the required courses as he may not have had. If at the end of two terms of residence in Princeton his work has been satisfactory, he may be enrolled as a regular student, his status being determined by his credits; or, in case he qualifies for it, he may receive a degree with the graduating class. In the meantime he will be subject to the same regulations and discipline as a regular student.

No person is admitted to the University as a candidate for a Bachelor's degree, or for the degree of Civil Engineer, after the beginning of the first term of the senior year.

REGULATION CONCERNING SECRET SOCIETIES

Immediately after the beginning of the academic year the students entering the Undergraduate Department meet according to announcement for matriculation; and subscription to the following pledge is required by the Board of Trustees:

We, the undersigned, do individually for ourselves promise, without mental reservation, that we will have no active connection whatever with any secret society, nor be present at the meetings of any secret society in this institution so long as we are members of Princeton University, it being understood that this promise has no reference to the American Whig and Cliosophic Societies. We also declare that we regard ourselves bound to keep this promise and on no account whatever to violate it.

PLAN OF UNDERGRADUATE STUDY

The courses of study offered to candidates for a bachelor's degree extend through four academic years, and lead to the degrees of Bachelor of Arts (A.B.), Bachelor of Letters (Litt.B.), and Bachelor of Science (Sc.B.). The degree of Bachelor of Arts (A.B.) is open to those who, entering with Greek, fulfill the full classical requirements of freshman and sophomore years; candidates for the degree being free, after the two introductory years, to choose their studies in whatever department they prefer, whether philosophical, literary, or scientific. The degree of Bachelor of Letters (Litt.B.) is open to those who, having substituted for Greek at entrance either French or German or one of those languages and physics or chemistry, concentrate their studies in junior and senior years in one of the philosophical, literary, political, or other humanistic departments. The degree of Bachelor of Science (Sc.B.) is open to those who, entering with a similar substitution for Greek, concentrate their studies in junior and senior years in one of the mathematical or scientific departments. The degree of Civil Engineer is conferred upon those who complete the full course in Civil Engineering, as outlined on succeeding pages.

The schedule of every sophomore, junior, and senior who is a candidate for a bachelor's degree consists of five courses of three hours a week, subject only to the established exemptions for candidates for Final Special Honors.

The various courses of study offered are open only to students of that year to which the courses belong, except in cases where students are allowed or required to take a course belonging to a preceding year. A student not required to enroll in a course of a lower year than the one

in which he is ranked, and desiring to do so, is required to present to the Registrar the written permission of the instructor in charge of the course.

THE FRESHMAN YEAR

Candidates for the A.B. degree have in freshman year seventeen class exercises a week of which two are in English, four in Latin, four in Greek, four in Mathematics, and three in the modern language offered at entrance. Any candidate for the A.B. degree who passes either French B or German B at entrance may elect an advanced course in the subject passed by him, or may begin the other modern language which he did not offer for entrance.

Candidates for the Litt.B. or Sc.B. degree have seventeen class exercises a week of which two are in English, four in Latin, four in Mathematics, four in Physics or Chemistry, and three in a modern language.

A course in Hygiene, one hour a week, both terms, and a course in Physical Education, three periods a week, both terms, are also required of all freshmen, but the hours or periods of these courses are not to conflict with the hours regularly scheduled for each individual student in the curriculum.

FRESHMAN SCHEDULE

A.B.		Litt.B. or Sc.B.	
Greek	4 hours	Physics or Chemistry	4 hours
Latin	4 "	Latin	4 "
Mathematics	4 "	Mathematics	4 "
English	2 "	English	2 "
Mod. Lang.	3 "	Mod. Lang.	3 "
Hygiene	1 "	Hygiene	1 "
Physical Education ...	3 "	Physical Education ..	3 "
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21		21	

THE SOPHOMORE YEAR

The sophomore courses, required and elective, arranged so as to include elementary courses prerequisite to the subsequent studies of the various departments, are as follows:

SOPHOMORE A.B.—REQUIRED

Introduction to Philosophy
Greek (1st term); Latin (2nd term)
Physics or Chemistry

SOPHOMORE A.B.—ELECTIVE (*Two courses to be taken*)

History
Latin (1st term); Greek (2nd term)
French (Advanced or Beginners')
German (Advanced or Beginners')
Spanish or Italian
English
Mathematics
Physics
Chemistry
Geology
Biology

SOPHOMORE LITT.B. AND SC.B. [for students who have taken Physics in Freshman Year]

REQUIRED

Introduction to Philosophy
Two of
Latin, Mathematics, Physics (second course)
or Chemistry (first course)

ELECTIVE (*Two courses to be taken*)

History
Latin
French (Advanced or Beginners')
German (Advanced or Beginners')
Spanish or Italian
English
Mathematics
Physics (second course)
Chemistry (first course)
Biology (with Chemistry)
Geology
Graphics, if Mathematics is taken

SOPHOMORE LITT.B. AND SC.B. [for students who have taken Chemistry in Freshman year]

REQUIRED

Introduction to Philosophy

Two of

Latin, Mathematics, Physics (first course)
or Chemistry (second course)

ELECTIVE (*Two courses to be taken*)

History

Latin

French (Advanced or Beginners')

German (Advanced or Beginners')

Spanish or Italian

English

Mathematics

Physics (first course)

Chemistry (second course)

Biology

Geology

Graphics, if Mathematics is taken

The student's choice of a department for junior and senior years is to some extent conditioned by his selection of electives in the sophomore year.

THE JUNIOR AND SENIOR YEARS

Every junior and senior in candidacy for a Bachelor's degree is enrolled either under the general plan of study, taking five three-hour courses, or as a candidate for Final Special Honors, taking four three-hour courses. In either event he must take at least two, and in some cases three, three-hour courses in some one department. When three three-hour courses throughout the year are required of Departmental students, it is so indicated in the following lists. The regulations for Final Special Honors are given in the section entitled "Honors" on page 67.

LIST OF COURSES OF JUNIOR YEAR

[The numbers prefixed to the courses in the following list refer to the description of those courses on later pages. All courses three hours a week. First term courses have odd numbers; second term courses have even numbers.]

A. DIVISION OF PHILOSOPHY

I. *Department of Philosophy*

Two courses throughout year required of Departmental students, one of which must be 301, 302. History of Philosophy.

301, 302. History of Philosophy

303. Problems of Psychology. 304. Advanced Logic

305. General Psychology. 306. Genetic Psychology

(*Advised elective*: 303, 304. Constitutional Government and Jurisprudence)

II. *Department of History and Politics*

301, 302. European History

303. Constitutional Government. 304. Jurisprudence

305. Greek History. 306. Roman History

(*Requisite cognate course*: 305, 306. Economics)

(*Advised elective*: 301, 302. History of Philosophy)

III. *Department of Economics and Social Institutions*

Three courses throughout year required of Departmental students

305, 306. Elements of Economics

307, 308. Historical and Descriptive Economics

309. Elements of Accounting; 312. Statistical Methods

IV. *Department of Art and Archaeology*

301. Ancient Art. 302. Mediaeval Art

303, 304. Ancient and Mediaeval Architecture

305, 306. Architectural Drawing

B. DIVISION OF LANGUAGE AND LITERATURE

V. *Department of Classics*

319. Theocritus. 320. Plato

305. Greek History. 306. Roman History

(*Advised elective*: 301, 302. History of Philosophy)

Honors Courses in Classics

307. Roman Satire. 308. Latin Philosophical Essays

313. Greek Comedy. 314. Greek Tragedy

317. Latin Literature. 318. Roman Literature

VI. *Department of English*

301. English Literature (The Renaissance). 302. Shakespeare
 303. Chaucer. 304. History of the English Language
 305, 306. Advanced Public Speaking

VIIa. *Department of Modern Languages. Germanic Section*

- 301, 302. German Literature (Opitz to Lessing)
 303, 304. German Literature (Goethe)

VIIb. *Department of Modern Languages. Romanic Section*

- 301, 302. French Literature (17th century)
 305, 306. Italian
 307, 308. Spanish

C. DIVISION OF MATHEMATICS AND SCIENCE

VIII. *Department of Mathematics*

- 305, 306. Coördinate Geometry
 307, 308. Analysis
 309, 310. Analytical Mechanics

IX. *Department of Physics*

- 301, 302. Experimental Physics
 309, 310. Analytical Mechanics
Honors Courses in Mathematics and Physics
 305, 306 A. Coördinate Geometry
 307, 308 B. Analysis
 309, 310 C. Analytical Mechanics
 311, 312 D. Theoretical Physics
 313, 314 E. Experimental Physics

X. *Department of Chemistry*

- General Physics required, unless already taken
 301. Qualitative Analysis and 302. Quantitative Analysis I
 or 401, 402. Quantitative Analysis II, III
 305. Physical Chemistry I and 306. Organic Chemistry I

XI. *Department of Geology*

- 201, 202. Geology (If not taken in sophomore year)
 301, 302. Structural Geology
 303. Descriptive Mineralogy. 304. Determinative Mineralogy
 306. General Palaeontology (second term)
 [Either 304 or 306 must be taken; the other may be taken
 as a free elective]

(*Requisite cognate course:* Biology through the year, or Chemistry through the year, or Graphics and Surveying)

XII. *Department of Biology*

201, 202. General Biology

303, 304. Botany

305. Comparative Osteology; 306. Invertebrate Zoölogy

(Students electing the Department take two courses throughout junior year. General Biology 201, 202 must be one of them, if it was not taken in sophomore year. Students who took Biology 201, 202 in sophomore year elect 303, 304 and 305. 306 (*Requisite cognate course:* Chemistry 303, 304 through the year).

XIII. *Department of Astronomy*

301. Elementary Astronomy; 302. Stellar Astronomy

(Cognate course required of candidates for Honors in Astronomy)

Junior courses which are not included in any one of the departments above:

302. Surveying

302. Physical Geography

301, 302. Military History, Policy, and Minor Tactics

LIST OF COURSES OF SENIOR YEAR

A. DIVISION OF PHILOSOPHY

I. *Department of Philosophy*

401. Fundamental Problems in Philosophy

402. Present Philosophical Tendencies

403, 404. Experimental Psychology

405. History of Greek Philosophy [2nd term in 1916-17]

407, 408. Ethics

II. *Department of History and Politics*

401, 402. English History

403, 404. American History

405. Municipal Government (1st term)

406. Federal and State Government (2nd term)

407, 408. International Law and Diplomacy

409, 410. Constitutional Interpretation and Administrative Law

421, 422. Roman Law

III. *Department of Economics and Social Institutions*

- 409. Money and Banking; 410. Public Finance
- 411. European Economic Policy (1st term)
- 414. Social Economics (2nd term)
- 415. Corporation Finance; 418. Principles of Accounting

IV. *Department of Art and Archaeology*

- 401. Italian Sculpture; 402. Greek Sculpture
- 405. Italian Painting; 406. Northern Painting
- 407, 408. Classical Architecture
- 409, 410. Applied Elements.

B. DIVISION OF LANGUAGE AND LITERATURE

V. *Department of Classics*

- 419. Greek Epic Poetry; 420. Virgil
- 421, 422. Roman Law
- Honors Courses in Classics*
- 401. Lucretius; 402. Roman Elegiac Poets
- 413. Tacitus; 414. Cicero's Political Writings
- 415. Greek Lyric Poets; 416. Aristotle or 416 A. Thucydides.
- 423. Classical Influences (1st term)

VI. *Department of English*

Three courses throughout year required of Departmental students

- 401. English Literature (Restoration and 18th century);
- 402. English Literature (17th century)
- 403. English Romanticism; 404. English Literature of the Victorian Period
- 405. Elementary Old English; 406. Advanced Old English
- 407, 408. Advanced Composition
- 409. Classical Influences in English Literature; 410. Poetics

VIIa. *Department of Modern Languages. Germanic Section*

- 401, 402. German Literature (19th century)
- 403, 404. German Literature (Middle High German)

VIIb. *Department of Modern Languages. Romanic Section*

- 401, 402. French Literature (Romantic Movement)
- 403, 404. Old French
- 405, 406. French Literature (18th and 16th centuries)
- 407, 408. Italian Literature
- 409, 410. Spanish Literature

C. DIVISION OF MATHEMATICS AND SCIENCE

VIII. *Department of Mathematics*

- 403, 404. Differential Geometry
- 405, 406. Algebra
- 407, 408. Projective Geometry (not given 1916-17)
- 409, 410. Analysis (not given 1916-17)

IX. *Department of Physics*

- 401, 402. Theoretical Physics (Light and Heat)
- 403, 404. Theoretical Physics (Electricity and Magnetism)
- Honors Courses in Mathematics and Physics*
- 403, 404. a. Differential Geometry
- 405, 406. Algebra
- 411, 412. c. Applied Mathematics: Electricity and Magnetism
- 413, 414. d. Theoretical Physics
- 415, 416. e. Experimental Physics
- 401, 402. f. Celestial Mechanics

X. *Department of Chemistry*

Three courses throughout year required of Departmental students:

- 401. Quantitative Analysis II
- 403. Organic Chemistry II
- 405. Physical Chemistry II
- 410. Advanced Inorganic Chemistry, together with any two of
 - 402. Quantitative Analysis III
 - 404. Organic Chemistry III
 - 406. Physical Chemistry III

or (for those who have taken 401, 402. Quantitative Analysis II and III in Junior year)

- 403. Organic Chemistry II; 404. Organic Chemistry III
- 405. Physical Chemistry II; 406. Physical Chemistry III
- 407. Rise and Development of Chemical Theories;
- 410. Advanced Inorganic Chemistry

Electives:

- 402. Quantitative Analysis III
- 404. Organic Chemistry III
- 406. Physical Chemistry III
- 407. Rise and Development of Chemical Theories

XI. *Department of Geology*

Three courses throughout year required of Departmental students

401, 402. Historical Geology

403. Structural and Dynamic Geology; 404. Economic Geology

405, 406. Practical Geology

407. Crystallographic Mineralogy; 408. Optical Mineralogy

XII. *Department of Biology*

Three courses throughout year required of Departmental students

401. Comparative Anatomy of Vertebrates; 402. Embryology

403. Histology. 404. Histology, or 406. Palaeontology

407, 408. Physiology

409, 410. Genetics

XIII. *Department of Astronomy*

401, 402 f. Celestial Mechanics

403, 404. Practical Astronomy

Senior courses which are not in any one of the departments above:

401, 402. Sanskrit

403, 404. Biblical Literature

405, 406. Biblical Literature

407. History of Modern Science (1st term)

401. History and Psychology of Education (1st term)

402. Aesthetics (2nd term)

401, 402. Heat Engines

METHOD OF UNDERGRADUATE INSTRUCTION

Instruction in Physics, Chemistry, Biology, and Astronomy is given not only by means of lectures and formal tests upon textbooks, but also by means of practical experimental work in the several laboratories and in the working observatory. In Mathematics, besides the stated class exercises and occasional lectures, certain hours are set apart each week during which the instructors of the department are accessible for informal consultation by all students who

wish further explanation or discussion of such portions of their mathematical work as most interest them or give them the most difficulty. In Geology, similarly, there is field work and constant informal resort to the geological museum, added to frequent conferences with the instructors in the several courses on the reading assigned.

Instruction in what may be called the reading departments, Philosophy, History and Politics, Economics and Social Institutions, Art and Archaeology, and the languages is given chiefly by means of informal conferences on the reading assigned. A "course" consists, not of the lectures given in connection with it or of the study of a particular textbook relied on by the lecturer, but of a prescribed body of reading to which the lectures given are complementary. In each course the student is made responsible to a particular preceptor for his reading, and reports to him once a week for conference. The student is expected to attend every conference, and may be absent only for unavoidable reasons. Failure to keep his preceptorial appointments will ordinarily affect his final standing.

At each conference the preceptor usually meets from three to six of the men assigned him. The methods of conference differ, of course, with the character of the subject, but are always informal, being intended, not as a quiz or recitation or drill, nor as a method of coaching, but, so far as the preceptor is concerned, as a means of finding out how thoroughly and intelligently the student has done his reading, and, so far as the student is concerned, as a means of stimulation and enlightenment with regard to the study in hand. His work is explained to him where it is obscure, and its scope and implications are extended out of the wider reading and maturer scholarship of the preceptor. Study centers upon these conferences, as in the

scientific departments it centers upon the laboratory. They are meant to supply to study the life which it cannot have in the formal exercises of the classroom and to bring the students into an intimate contact with their teachers which is hardly possible in other methods of instruction.

One result of this method of instruction is to lay the principal emphasis of work upon the constant reading required, upon what is ordinarily called "term work," rather than upon preparation for occasional examinations. In reckoning the "standing" of a student more weight is given to his work with his preceptor than to his performance in examination. Each preceptor is expected to report in departmental meeting upon the work of the men assigned him, and it is only upon his recommendation that they are admitted to examinations. He may recommend the debarment from examination of any of the men assigned to him who seem to have neglected their work or to have done it too indifferently. He makes no formal report to any university officer of their absences from his appointed conferences or of their attendance, but forms his own estimate of their thoroughness and faithfulness and gives his judgment upon the basis of an intimate observation.

Members of the Faculty of all ranks do "preceptorial" work; those who lecture or conduct the formal class exercises acting as preceptors as well as those who devote the principal part of their time to this special method of teaching.

HONORS

Honors are of two kinds, *General* and *Special*.

General Honors are awarded for general excellence in studies at the close of freshman and sophomore years according to the following provisions: At the close of the freshman and sophomore years High General Honors are

given to those whose average rank for the year is within the first general group, and General Honors to those whose average rank for the year is within the second general group. No General Honors are awarded after the sophomore year.

FINAL SPECIAL HONORS

OPEN TO CANDIDATES FOR A BACHELOR'S DEGREE

Final Special Honors are based on the work of the junior and senior years and are awarded at graduation only. The regulations concerning Final Special Honors are as follows:

1. A student who has attained a standing of first or second general group at the end of sophomore year may be enrolled as a candidate for Final Special Honors on his own request.

A student whose standing at the end of sophomore year is not lower than the third general group, and within the first or second group in the department he proposes to enter or in courses preliminary thereto, may be enrolled on his own request as a candidate for Final Special Honors in that department.

Any student who at the end of sophomore year falls short of these requirements may be so enrolled only on the recommendation of the department or departments concerned.

A student who has been enrolled under the general plan of study during the first term of his junior year but who during that term has maintained a standing at least as high as is required of a candidate for Honors that he may continue in candidacy (see § 6), may be enrolled at the beginning of the second term of his junior year as a candidate for Final Special Honors on the recommendation of his department.

A student who has been enrolled under the general plan

of study during his junior year but who during that year has maintained a standing at least as high as is required of a candidate for Honors that he may continue in candidacy (see § 6), may be enrolled at the beginning of his senior year as a candidate for Final Special Honors on the recommendation of his department.

Final Special Honors may be awarded to a senior who has not taken the junior year in Princeton.

2. Every junior or senior in candidacy for a bachelor's degree who is enrolled as a candidate for Final Special Honors shall have a schedule of four courses, of which at least two shall be in some one department.

3. A candidate for Final Special Honors shall do more advanced work in the courses of his department than is required of a student who is enrolled under the general plan of study.

4. A candidate for Final Special Honors shall take a final comprehensive examination which shall consist of not less than two written papers of three to four hours each, or one paper of three to four hours supplemented by an oral examination of one hour. Special tests on laboratory work, or the preparation of a thesis, may be required in addition.

There shall be no second term senior examinations in departmental courses for candidates for Final Special Honors.

5. Final Special Honors are of three grades, Highest Honors, High Honors, and Honors. They are based upon the standing which a student has maintained in the courses of his department in junior and senior years and upon the final comprehensive examination.

6. No candidate for Final Special Honors may continue in candidacy if at the close of any term he fails to maintain an average second group standing in the courses required in his department and taken by him up to that time, or fails

to maintain an average standing of third general group calculated from the beginning of junior year. In case of such a failure, he shall be required to enroll under the general play of study. At the end of an additional term after such a failure a student who has regained an average standing of second group in his department courses and third general group, in both cases calculated from the beginning of junior year, may be enrolled as a candidate for Final Special Honors.

FINAL SPECIAL HONORS IN CIVIL ENGINEERING

Final Special Honors in Civil Engineering are based on the regular work only of the junior and senior years and are awarded at graduation. The regulations for admission to candidacy, continuation in candidacy, and grades of Honors awarded are the same as those for Final Special Honors in the courses leading to the bachelors' degrees.

DEPARTMENT OF CIVIL ENGINEERING

THE COURSE OF STUDY

The course in civil engineering is a prescribed sequence of work aiming to develop the mental powers of the student and to train him, at the same time, in the fundamental principles and methods of engineering. It occupies four years and leads to the degree of Civil Engineer.

The two-fold purpose of seeking, in a four year course, to educate broadly as well as professionally necessarily requires a larger number of subjects and student work-hours per week than is generally found in the academic courses. The intimate contact of the civil engineering students with the academic and the participation of the former in all university activities is regarded as a valuable part of their general training, making for a broad, cultured, all around manhood. At the same time, the successful prosecution of the engineering course requires a serious interest, a concentration of purpose, and a cheerful acceptance of the larger amount of work and work-hours involved.

A high degree of specialization in the undergraduate engineering course is avoided. On the other hand, the close relationship between civil, mechanical and electrical engineering is recognized and provided for by fundamental courses in these last two fields.

About half of the subjects of the curriculum are general or only partly technical. They offer the necessary foundation for the technical work, give breadth of view, and have in themselves a direct practical bearing upon the engineer's life work. Thus considerable time is allotted to English, mathematics, economics, and the physical sciences (chemistry, physics and geology).

In the work in English, the need of a proficient command of written and spoken English by the engineer is recognized. In the freshman year considerable attention is given to the principles and practice of technical writing, much material for the themes being obtained from visits to engineering works and lectures by outside practicing engineers. The senior course is designed to give practice in public speaking and to train the young engineer to prepare clear, well written reports, and to explain or defend them in public.

The mathematical training of the engineer should be especially thorough, and the courses in this field, extending over the first three years, are arranged with the needs of the engineer in view. The work in analytical mechanics begins early in the course (sophomore year), and supplements in an intimate manner the more symbolic processes of the pure mathematics.

The course in economics in the junior year recognizes the value to an engineer of a clear understanding of the broad principles underlying modern industrial life. While emphasis is placed upon the fundamental principles of economics, the student is given opportunity to study some of the special problems of particular interest to engineers.

The sophomore courses in physics prepare directly for the work in thermodynamics and electrical engineering occurring later in the course.

The technical work begins properly with the course in engineering drawing in the freshman and sophomore years. The aim of this course is to train the student to understand a complex object, such as a part of a machine or structure in all of its relationships, and to express it by free-hand sketch and mechanical drawing in proper engineering form. He is required to think, to visualize, and to use drawing as a language for the formal expression of mental concepts.

The sophomore course in graphics includes descriptive geometry and its applications. Stress is laid upon the technique of drawing.

The study of surveying and engineering field work is provided for in the courses under the general heading geodesy. The structure, adjustment, and use of the instruments are made subjects of special attention, and no student is allowed to participate in any extended field operation until he has passed a 100% test in both level and transit adjustments, and has acquired a certain dexterity in handling the instruments used therein. A special feature of the course in geodesy is the stress laid on the orderly collection and verification of field notes by each student, and on their appropriate use in the preparation of different kinds of plans, maps, and charts of surveys. During the two weeks immediately following the close of the second term the junior class goes into camp in close proximity to a suitable body of water in the locality selected by the professor of geodesy and members of the class, where it engages in hydrographic, stadia, and triangulation surveys. At the close of the summer vacation period this class is required to report to the professor of geodesy in Princeton on the Monday morning preceding the week of the opening of the term (September 17th in 1917), for an extended railway location survey in the vicinity of Princeton. The method of conducting this work is similar to that of the summer camp, and the student is required to give his entire time to it until noon of the Friday of the first week of the term.

The remaining technical studies of the course, beginning with the junior year, may be grouped under the following heads: structural, mechanical, electrical, and hydraulic engineering.

The structural group includes the courses in mechanics of materials, materials testing laboratory, reinforced con-

crete, and structural design, in the junior year, and framed structures, foundations and reinforced concrete design, in the senior year. It covers steel and concrete bridges, buildings, and other engineering structures. Stress is laid upon fundamental theory, but the latter is constantly applied to the actual design of engineering structures.

The mechanical group, developing directly from the earlier course in engineering drawing, includes machine design in the junior year and heat engines in the senior. In the former particular attention is given to the mechanism for the transmission of power, especially for large moving structures. The latter covers thermodynamics and the elements of heat power engineering, steam and gas engines, steam and water turbines. The classroom work in this course is supplemented by practical work in the heat engine laboratory.

The course in electrical engineering is a general one, especially designed for the needs of the civil engineer. It covers direct currents in the first term and alternating currents in the second, and is supplemented by considerable laboratory practice.

The hydraulic group includes hydraulics, supplemented by work in the hydraulic laboratory, and hydrodynamics, and their application to problems of water power development, municipal water supply, and sewerage systems.

Some flexibility is given to the curriculum in the senior year by the presence of elective subjects.* The list of such subjects is not final and will be modified as future needs require. In general the selection will be made from this list, but students having a definite purpose in view may, with the approval of the department, elect other courses which have an important relation to their future work. In particular, students expecting to enter metallurgical, mining or geologic work may elect one or two terms of mineralogy.

* See page 75.

The following is the synopsis of the course in civil engineering:

THE FRESHMAN YEAR

<i>First Term</i>		<i>Second Term</i>	
English	3	English	3
Physics	4	Physics	4
Mathematics	4	Mathematics	4
Chemistry	4	Chemistry	4
Engineering Drawing	2	Engineering Drawing	1
Geodesy	1	Geodesy	2
Hygiene	1	Hygiene	1
Physical Education	3	Physical Education	3
<hr/>		<hr/>	
Total	22	Total	22

THE SOPHOMORE YEAR

<i>First Term</i>		<i>Second Term</i>	
Physics	3	Physics	3
Mathematics	4	Mathematics	4
Analytical Mechanics	3	Analytical Mechanics	3
Engineering Drawing	2	Graphics	2
Graphics	2	Geodesy	3
Geodesy	3	Geology	3
<hr/>		<hr/>	
Total	17	Total	18

THE JUNIOR YEAR

<i>First Term</i>		<i>Second Term</i>	
Analytical Mechanics	3	Hydraulics	3
Mechanics of Materials.....	4	Reinforced Concrete.....	3
Laboratory	2	Laboratory	1
Geodesy	3	Geodesy	3
Machine Design	2	Machine Design	2
Economics	3	Economics	3
<hr/>		Structural Design	3
Total	17	Total	18
Summer Camp			

THE SENIOR YEAR

*First Term**Second Term*

Railway Location Survey		Electrical Engineering	3
Electrical Engineering.....	3	Heat Engines	3
Heat Engines	3	English	2
English	2	Framed Structures	4
†Water Power	4	‡Elective	5
Framed Structures	4		
Elective	2		
Total	18	Total	17

*Electives:

*Electives:

Railway Economics.....	2	Water Supply	2
Concrete Constructions	2	Gas Engines	2
Sewerage	2		

† In 1916-1917 Hydraulics (4) will be given in the first term in place of Water Power (4).

‡ In 1916-1917 Water Power (3) is a required course in the second term, replacing three hours of elective work.

*See page 73.

*COURSES OF INSTRUCTION

A. DIVISION OF PHILOSOPHY

I. DEPARTMENT OF PHILOSOPHY AND PSYCHOLOGY

THE PRESIDENT, PROFESSORS WARREN, †KEMP SMITH, JOHNSON, †BOWMAN, SPAULDING, FITE (CHAIRMAN), FOGEL, WHITNEY, MC COMAS, AND LONGWELL; DR. MARSHALL AND DR. FARRAR; DR. BLAKE, DR. SIGSBEE, DR. BRIGHAM, DR. FISHER, AND MR. RAGSDALE.

- 201, 202. Introduction to Philosophy: Logic, Psychology, and General Philosophy. Hibben: *Problems of Philosophy*; James or Angell: *Psychology*; Berkeley: *Principles of Human Knowledge*; Mill: *Utilitarianism*. Sophomore required course, both terms, 3 hours a week. Lecturers, the President, Professors Spaulding and Fite; Classroom Instructors, Professors Spaulding, Fite, Fogel, Whitney, and Longwell, Dr. Blake, Dr. Sigsbee, and Dr. Fisher.
301. History of Philosophy. Greek and Mediaeval Philosophy. Lectures and collateral reading. Junior course, first term, 3 hours a week. Prerequisite to History of Philosophy of second term. Lecturer, Professor Longwell; Preceptors, Professors Fogel, Whitney, and Longwell, Dr. Blake, Dr. Sigsbee, and Dr. Fisher.
302. History of Philosophy. Modern Philosophy. Lectures and collateral reading. Junior course, second term, 3 hours a week. Prerequisite course: History

* Courses between 101 and 200 are for freshmen, between 201 and 300 for sophomores, between 301 and 400 for juniors, and between 401 and 500 for seniors.

† Absent on leave.

- of Philosophy of first term. Lecturer, Professor Longwell; Preceptors, Professors Fogel, Whitney and Longwell, Dr. Blake, Dr. Sigsbee, and Dr. Fisher.
303. Problems of Psychology. Lectures and preceptorial reading. Junior course, first term, 3 hours a week. Lecturer, Professor Johnson; Preceptors, Professors Johnson and McComas, and Dr. Brigham.
304. Logic. Lectures and preceptorial conferences. Junior course, second term, 3 hours a week. Professor Whitney.
305. General Psychology. The normal mental processes in man; forms and laws of consciousness and behavior; lectures and collateral reading. Junior course, first term, 3 hours a week. Lecturer, Professor Warren; Preceptors, Professors Warren and McComas, and Dr. Brigham.
306. Genetic Psychology. Evolution of consciousness in man and the lower species; psychological application of the theory and laws of organic evolution. Lectures and collateral reading. Junior course, second term, 3 hours a week. Lecturer, Professor Warren; Preceptors, Professors Warren, Johnson, and McComas, and Dr. Brigham.
- *401. Fundamental Problems of Philosophy. Discussion, historical and systematic, of the main current topics of philosophy, materialism, agnosticism, idealism. Paulsen: *Introduction to Philosophy*. Karl Pearson: *The Grammar of Science*. Previous knowledge of technical metaphysics is not required. Senior course, first term, 3 hours a week. Lecturer, Professor Fite; Preceptors, Professors Fite, Johnson, Fogel, and Whitney.
- *402. Present Philosophical Tendencies. A presentation of

* Also listed as a graduate course.

the main philosophical positions receiving discussion at the present time, together with an examination of problems and an analysis of methods. Senior course, second term, 3 hours a week. Professor Spaulding.

403. Experimental Psychology. Introductory course. Psychophysical methods, analysis of sensation, reaction, and study of the common senses. Lectures and work in the laboratory. Senior course, first term, 3 hours a week. General Psychology 305 is recommended to be taken as preparatory to this course. Professor Warren, assisted by Mr. Ragsdale.

404. Experimental Psychology. Continuation of 403. Special senses; space perception and illusions; higher intellectual processes. Lectures and work in the laboratory. Senior course, second term, 3 hours a week. Professor McComas, assisted by Mr. Ragsdale.

- *405. History of Greek Philosophy. Lectures and collateral reading. Detailed study will be made of the Pre-Socratic fragments, and of some of the chief works of Plato and Aristotle. History of Philosophy 301 should, if at all possible, be previously taken in junior year. Senior course, first term, 3 hours a week. Professor Bowman. [Given in second term, 1916-17, by Professor Fite.]

- *407, 408. Ethics. A study of the deeper moral problems and of the historic types of ethical theory, with their philosophical background. The bearing of ethical theory upon social and political issues and upon the practical problems of individual life. Lectures and preceptorial reading. Senior course, both terms, 3 hours a week. Lecturer, Professor Fite; Preceptors, Professors Johnson and Fite.

* Also listed as a graduate course.

FINAL SPECIAL HONORS

Two courses in the Department are to be taken throughout junior and senior years.

Final Special Honors may be taken either in Philosophy or in Psychology. In Philosophy the additional Honors work shall be as follows:

Plato: *Republic*†
 Aristotle: *Ethics*
 Descartes: *Meditations*†
 Berkeley: *Principles of Human Knowledge*†
 Hume: *Enquiry Concerning the Human Understanding*†
 Spinoza: *Ethics*, or Leibnitz: *Selections*
 Kant: *Critique of Pure Reason*†
 Kant: *Critique of Practical Reason*†
 Green: *Prolegomena to Ethics*
 Sigwart: *Logic* (portions only)
 William James: *Principles of Psychology*†

[Note: The books marked by a dagger are already employed, in whole or part, as reading in the regular courses.]

In Psychology the additional Honors work shall be as follows:

Reading and research in

(1) Color Vision

Space Perception (analytic, genetic, experimental, theory)

Association (historical, experimental)

Emotion (theories, laboratory tests)

Attention and Volition

Psychophysical Methods and Problems, and

(2) British Philosophy from Bacon to Hume, with reading of

Locke: *Essay Concerning the Human Understanding* (portions only)

Berkeley: *Principles*† and *Dialogues*

Hume: *Treatise on Human Nature* (Book 1)

Leibnitz: *Selections*

Candidates for Final Special Honors in Psychology shall take at least one course in Psychology in each term of junior and senior years.

Candidates for Final Special Honors in Philosophy or Psychology shall take the usual term examinations in junior and senior years, except that in place of the regular second term senior examinations a set of final examinations on the additional Honors work of junior and senior years will be substituted.

Each candidate for Final Special Honors is also required by March 14th of senior year to present a thesis on some central topic; the subject proposed to be reported to and approved by the Department not later than the close of junior year.

For graduate courses in Philosophy, see under the Graduate School, in the University Catalogue.

II. DEPARTMENT OF HISTORY AND POLITICS

PROFESSORS PAUL VAN DYKE, WESTCOTT, FORD, *MC ELROY, CORWIN, W. F. WILLOUGHBY, ABBOTT, BRÜNNOW, MUNRO (CHAIRMAN), BROWN, SHIPMAN, MYERS, WERTENBAKER, C. R. HALL, W. P. HALL, CHALFANT ROBINSON, AND FRITTS; DR. MAGRUDER, DR. TYLER, MR. CLARK, DR. FOX, AND DR. QUIGLEY.

201, 202. Mediaeval History; 400 A.D.—1494 A.D. Sophomore elective, both terms, 3 hours a week. One lecture weekly by Professor Munro, and two recitations weekly in small divisions, the recitations being conducted by Professors Munro, C. R. Hall, and Robin-

* Absent on leave.

son, and Dr. Tyler. (This course is to precede and be continuous with History 301 and 302.)

301. European History from the fifteenth century to the French Revolution. Lectures and required reading. Junior course, first term, 3 hours a week. Lecturer, Professor W. P. Hall; Preceptors, Professors Shipman and W. P. Hall, Dr. Tyler and Dr. Quigley.
302. European History from the French Revolution to the twentieth century. Lectures and required reading. Junior course, second term, 3 hours a week. Lecturer, Professor W. P. Hall; Preceptors, Professors Shipman and W. P. Hall, Dr. Tyler and Dr. Quigley.
303. Constitutional Government. The genesis, nature, and operation of constitutional government, with especial reference to the political institutions of England, Germany, and the United States. W. Wilson: *Constitutional Government*; Ogg: *The Governments of Europe*; Lowe: *The Governance of England*. Junior course, first term, 3 hours a week. Lecturer, Professor Willoughby; Preceptors, Professors Shipman and Fritts, Dr. Magruder, Mr. Clark, and Dr. Fox.
304. Elements of Jurisprudence. Outlines of jurisprudence. An exposition of jurisprudence as an organic whole, exhibiting the nature of its subject-matter, its relationship to cognate branches of study, the inter-relationship of its several parts to each other, and their proper function and aim. Lectures and collateral reading. T. E. Holland: *Elements of Jurisprudence*; Sir H. S. Maine: *Ancient Law*; and other reading. Junior course, second term, 3 hours a week. Lecturer, Professor Willoughby; Preceptors, Professors Shipman and Fritts, Dr. Magruder, Mr. Clark, and Dr. Fox.
305. Greek History. (Classics 305.) Two lectures will be

given each week on Greek History, from the earliest times to the Roman conquest. The third hour will be devoted to preceptorial conferences on reading, in English books, on special topics such as the Methods of Historical Investigation, Historical Criticism, the Value of the Ancient Tradition, Other Sources of Historical Knowledge, etc. A reading knowledge of Greek and Latin will not be required. Junior course, first term, 3 hours a week. Professor Prentice.

306. Roman History to 400 A.D. (Classics 306.) Special attention will be given to the study of Roman imperialism and the main governmental, economic, social, and religious developments in the Republic and the Empire. A reading knowledge of Greek and Latin will not be required. Lectures, class reports, and conferences. Junior course, second term, 3 hours a week. Professor A. C. Johnson.

*401, 402. Modern English History from the accession of the Tudor Dynasty to the Electoral Reforms of the Nineteenth Century. Lectures, collateral reading and tests. Senior course, both terms, 3 hours a week. Lecturer, Professor van Dyke; Preceptor, Professor van Dyke.

*403. American History to the Fall of the Federalist Party. An account of the discovery of the continent, the growth of colonial institutions, the development of concerted action among the colonies, and the establishment of the federal government. Lectures dealing with selected topics, textbook covering the entire period, and extensive collateral reading. Senior course, first term, 3 hours a week. Lecturers, Professors Myers and C. R. Hall; Preceptors, Professors Myers, Wertenbaker, and C. R. Hall.

* Also listed as a graduate course.

- *404. American History since the Fall of the Federalist Party. An account of the development and expansion of the United States. Lectures dealing with selected topics, textbook covering the entire period, and extensive collateral reading. Senior course, second term, 3 hours a week. Lecturers, Professors Myers and C. R. Hall; Preceptors, Professors Myers, Wertenbaker, and C. R. Hall.
- *405. Politics. Municipal Government in the United States and other countries. Senior course, first term, 3 hours a week. Lecturer, Professor Ford; Preceptors, Professors Ford and Fritts, Mr. Clark, and Dr. Fox.
- *406. Politics. Federal and State Government. An examination of the way in which public policy is formulated and the public business is carried on in the United States, tracing the divergence from English procedure and comparing existing methods with those of other self-governing countries. Lectures and collateral reading. Senior course, second term, 3 hours a week. Lecturer, Professor Ford; Preceptors, Professors Ford and Fritts, Mr. Clark, and Dr. Fox.
- *407, 408. International Law and Diplomacy. A discussion of the principles of international law as deduced from leading cases and as applied to current diplomatic events. Scott: *Cases on International Law*; Wilson and Tucker: *International Law*. Senior course, 3 hours a week throughout the year. Lecturer, Professor Brown; Preceptors, Professor Brown and Dr. Quigley.
- *409. Politics. Constitutional Interpretation and Administrative Law. A study of the development of the leading doctrines in these fields, principally by judicial decision. The establishment of the power of the courts

* Also listed as a graduate course.

in review of legislation, the police power of the States, and the Fourteenth Amendment are the principal topics studied. Senior course, first term, 3 hours a week. Lecturer and Preceptor, Professor Corwin.

*410. Politics. Constitutional Interpretation and Administrative Law. A continuation of the above course, which however may be taken separately. The Commerce Clause of the Constitution, other powers of Congress, the powers of the President, judicial control of executive and administrative powers, and the rights of citizenship are the topics studied. Senior course, second term, 3 hours a week. Lecturer and Preceptor, Professor Corwin.

*421, 422. (Classics 421, 422) Roman Law. The History and Institutes of Roman Law. Sohm: *Institutes of Roman Law*, English translation. Leage: *Roman Private Law*. Special attention will be given to the law of obligations. Students in the Department of Classics, and others who desire to do so, will read the Institutes of Gaius and of Justinian in Latin. Senior course, both terms, 3 hours a week. Professor Westcott.

FINAL SPECIAL HONORS

Juniors and seniors in the Department of History and Politics may become candidates for Final Special Honors in accordance with the general regulations for Final Special Honors. The special regulations are as follows:

1. Candidates for Final Special Honors shall take:

(a) Two courses in the Department, together with Economics 305, 306, in junior year, doing the regular preceptorial and classroom work and passing all tests and examinations given in those three courses.

* Also listed as a graduate course.

(b) Two of the senior courses offered by the Department, doing the regular preceptorial and classroom work and passing all tests and all examinations, except the final regular examination in the two courses of senior year in which they are pursuing Honors work. In place of this regular examination, candidates for Final Special Honors shall take an Honors examination covering the entire period of their Honors studies.

2. In place of the fifth course required of students not in candidacy for Honors, candidates for Final Special Honors will be required to do more extensive and advanced work in the courses which they may select. The Honors work will consist of supplementary reading and additional exercises and reports.

A statement of Honors reading will be issued.

For graduate courses in History and Politics, see under the Graduate School, in the University Catalogue.

III. DEPARTMENT OF ECONOMICS AND SOCIAL INSTITUTIONS

PROFESSORS FETTER (CHAIRMAN), KEMMERER, MC CLELLAN, ADRIANCE, MC CABE, *KNAUTH, BAUER, AND CAROTHERS;
DR. YOUNG AND DR. HOWARD.

305, 306. Elements of Economics. The fundamental theories of economics and some of their more important applications and exemplifications, such as money, banking, transportation, international trade, and monopoly problems. One lecture a week and two recitations in small groups to test the student's apprehension of the subject-matter covered in the reading.

* Absent on leave.

- Fetter: *Economic Principles* (first term), and *Economic Problems* (second term). Junior course, both terms, 3 hours a week. Prerequisite to Economics 409, 410, 411, 414. Professors Fetter, Adriance, McCabe, and Carothers, Dr. Young, and Dr. Howard.
- 307, 308. Historical and Descriptive Economics. A study of the main lines of English and American industrial development. Especial attention to critical periods which best illustrate economic principles; with a description of some important conditions of industry in the present day and more detailed study of some practical problems. Junior course, both terms, 3 hours a week. Open only to departmental students. Professor McCabe.
309. Elements of Accounting. The fundamental theory of debits and credits. Lectures and laboratory work in the special problems arising in different types of business. Junior course, first term, 3 hours a week. Economics 305 must precede or accompany this course. Professors Bauer and Carothers, and Dr. Howard.
312. Statistical Methods. The theory and methods of statistics with special attention to the analysis and presentation of the data in the fields of the economic and social sciences. Lectures and laboratory exercises. Junior course, second term, 3 hours a week. Courses 305 and 306 must precede or accompany this course. Professor Adriance and Dr. Young.
- *409. Money and Banking. The fundamental principles of money, credit, and banking, and their exemplification in modern currency and banking history, particularly that of the United States. Considerable attention is given to present day conditions and problems. Lectures and weekly conferences. Kemmerer:

* Also listed, with additional work, as a graduate course.

Money and Prices; Phillips: *Readings*; Dunbar: *The Theory and History of Banking*; Escher: *Elements of Foreign Exchange*; White: *Money and Banking*. Senior course, first term, 3 hours a week. Prerequisite courses: Economics 305 and 306. Professor Kemmerer (lecturer), Professors Fetter and Carothers, Dr. Young, and Dr. Howard.

- *410. Public Finance. The leading principles of public finance, and some of their practical applications in modern history, particularly that of the United States. The course is devoted largely to the subject of taxation, and considerable attention is given to present day problems. Seligman: *Essays in Taxation*; Bullock: *Selected Readings in Public Finance*; and collateral readings, especially readings in the *Reports of the National Conferences on State and Local Taxation*, and in selected reports of State tax commissions. Senior course, second term, 3 hours a week. Prerequisite courses: Economics 305, 306. Professor Kemmerer (lecturer), Professor Adriance, and Dr. Young.
- 411. European Economic Policy in the Nineteenth Century. An account of some of the important political events in Europe since 1815, in connection with social conditions and industrial changes. Senior course, first term, 3 hours a week. Prerequisite courses: Economics 305, 306. Professor McClellan.
- 414. Social Economics. A study of the principles and methods now being applied in the prevention and treatment of crime and dependency, and in bettering physical and moral conditions of industrial life. Lectures, with collateral readings, visits to industrial and philanthropic institutions in the vicinity, and reports and

* Also listed, with additional work, as a graduate course.

conferences on assigned problems. Senior course, second term, 3 hours a week. Prerequisite courses: Economics 305, 306. Professor Fetter (lecturer), Professor Carothers, and Dr. Howard.

415. Corporation Finance. A study of corporations with reference to their organization, their financial management, and their relations to investors. Lectures and laboratory exercises. Senior course, first term, 3 hours a week. Professors Bauer and Carothers.
418. Principles of Accounting. A continuation of course 309, leading to the preparation and analysis of private and public financial statements, and to the practice of cost finding, inventories, allowance for depreciation, and to the determination of rates in public utilities. Lectures and laboratory exercises. Senior course, second term, 3 hours a week. Professor Bauer.

FINAL SPECIAL HONORS

Candidates for Final Special Honors in this Department shall have attained second general group at the end of sophomore year, or third general group with second group in Sophomore History.

Applications from other students who have done good work in Mathematics, History, and Philosophy in their freshman and sophomore years will be considered by the Department.

The courses required in the Department throughout the junior and senior years are:

- 305, 306. Principles of Economics.
307, 308. Historical and Descriptive Economics.
309, 312. Elements of Accounting; Statistical Methods.
409, 410. Money and Banking; Public Finance.
411, 414. Economic Policy; Social Economics.
415, 418. Corporation Finance; Principles of Accounting.

The Honors readings for the first term, junior year, are: W. J. Ashley: *An Introduction to English Economic History and Theory*, Vol. I, Part I; John A. Hobson: *Evolution of Modern Capitalism*, chapters 3, 4, 5, 6; F. W. Taussig: *Tariff History of the United States*.

For the second term, junior year: S. S. Pratt: *The Work of Wall Street*; Bruce Wyman: *Control of the Market*; Sydney and Beatrice Webb: *History of Trade Unionism*, chapters 1, 2; *Industrial Democracy*, Part II, chapters 5, 6, 10; Part III, chapters 1, 2, 3; Victor S. Clark: *The Labor Movement in Australia*, chapters 5, 6, 7, 8, 9; A. C. Pigou: *Unemployment*.

A written report on some economic problem is required each term.

The Honors readings for the first term, senior year, are selected from the following: W. Bagehot: *Physics and Politics*; Lester F. Ward: *Outlines of Sociology*; F. H. Giddings: *Descriptive and Historical Sociology*; E. A. Ross: *Social Control*; W. I. Thomas: *Source Book of Sociology*. The readings for the second term, senior year, cover parts of the history of economic doctrines, and advanced problems in economic principles.

A comprehensive examination is given in the Honors Course at the end of the senior year.

For graduate courses in Economics and Social Institutions, see under the Graduate School, in the University Catalogue.

IV. DEPARTMENT OF ART AND ARCHAEOLOGY

PROFESSORS MARQUAND (CHAIRMAN), BUTLER, MATHER, MOREY, AND ELDERKIN; DR. SMITH AND MR. MORGAN.

301. Ancient Art. A general outline of the history of ancient sculpture, painting and the minor arts. Lectures and required reading. In this course the precep-

torial reading consists of Maspero: **Art in Egypt*; Babelon: **Manual of Oriental Antiquities*; Fowler and Wheeler: **Greek Archaeology*; Perrot and Chipiez: *Histoire de l'Art dans l'antiquité*, vols. VI-IX. [Books marked with an asterisk are used by all students of the course, whether candidates for Final Special Honors or not.] A thesis is required of candidates for Final Special Honors on one of the following subjects: Minoan and Mycenaean Painting; Minoan and Mycenaean Metal Work; Vase Paintings with Scenes from Epic Story; The Work of Praxiteles; Types of Greek Coins; Comparative Study of Greek and Roman Portraits. Junior course, first term, 3 hours a week. Lecturer, Professor Elderkin; Preceptors, Professors Elderkin and Morey.

302. Mediaeval Art. A general outline of the history of Early Christian, Byzantine, Romanesque, and Gothic sculpture, painting, and the minor arts. Lectures and required reading. In this course the preceptorial reading consists of: Lowrie: **Monuments of the Early Church*; Herbert: **Illuminated Manuscripts*; Mariage: **Sculptures of Chartres Cathedral*; Mâle: *Religious Art in France in the Thirteenth Century*; Michel: *Histoire de l'Art chrétien*; Gonse: *l'Art gothique*; Taylor: *The Mediaeval Mind*. [Books marked with an asterisk are used by all students of the course.] A thesis is required of candidates for Final Special Honors on one of the following subjects: The Use of the Apocryphal Gospels in Early Christian Art; The Mosaics of Rome and Ravenna; The Romanesque Style in Illuminated Manuscripts; Ecclesiastical Symbolism in the Thirteenth Century; The Crucifixion in Mediaeval Art; Mediaeval Monuments in the Princeton Art Museum; Mediaeval Monuments in

the Metropolitan Museum. Junior course, second term, 3 hours a week. Lecturer and Preceptor, Professor Morey.

303. Ancient Architecture. A course in the history of Egyptian, Assyrian, Persian, Greek, and Roman architecture. Two hours of lectures and one of historical drawing and reading. In this course the preceptorial reading consists of Statham: **A Short Critical History of Architecture*; Sturgis: **History of Architecture*, vol. I; Anderson and Spiers; **Architecture of Greece and Rome*; Simpson: *History of Architectural Development* (vol. I, chaps. I-VII); Choisy: *Histoire de l'Architecture*, vol. I; Benoit: *l'Architecture: Antiquité*; or Borrmann and Neuwirth: *Geschichte der Bankunst*, I. [Books marked with an asterisk are used by all students of the course. Extra reading is required of candidates for Final Special Honors.] Junior course, first term, 3 hours a week. Prerequisite to 407, 408. Elements of Architecture. Lecturer, Professor Butler; Preceptors, Professor Butler and Dr. Smith.
304. Mediaeval Architecture. The history of Early Christian, Byzantine, Romanesque and Gothic architecture. Two hours of lectures and one of historical drawing and reading. In this course the preceptorial reading consists of: Porter: **Mediaeval Architecture*; Moore: **Gothic Architecture*; Simpson: *History of Architectural Development*; Bond: *Gothic Architecture in England*; *English Church Architecture*; Choisy: *Histoire de l'Architecture*, vol. II; Lasteyrie: *l'Architecture Romane*; or Borrmann and Neuwirth: *Geschichte der Bankunst*, II. [Books marked with an asterisk are used by all students of the course. Extra reading is required of candidates for Final Special Honors.]

Junior course, second term, 3 hours a week. Prerequisite course: 303. Ancient Architecture. Lecturer, Professor Butler. Preceptors, Professor Butler and Dr. Smith.

- 305, 306. Architectural Drawing. A course in shades and shadows and perspective given from the architectural point of view, and offered especially to students intending to prepare for the future study and practice of architecture as a profession. All the common architectural elements are considered, with their shadows, in plan elevation and section; and in the second term particular attention is paid to perspective and to the drawing of the Classic Orders. Junior course, both terms, two hours of lectures and one of instruction in drawing each week. Prerequisite to 409, 410. Allied Elements. Lecturer and instructor in drawing, Mr. Morgan.

- *401. Renaissance and Modern Sculpture. A general treatment of sculpture from the end of the Middle Ages to modern times. Lectures and preceptorial reading, selected from such works as: Wölfflin: *The Art of the Italian Renaissance*; Marcel Reymond: *La Sculpture Florentine*; Gouse: *La Sculpture française*; Lady Dilke: *French Architects and Sculptors of the Eighteenth Century*; and from monographs devoted to special sculptors. Candidates for Final Special Honors will be required to write a thesis on some such topic as the following: 1. The Evolution of the Italian Taub; 2. The Equestrian Statue in the Italian and French Renaissance; 3. The School of Troyes; 4. The Life and Work of Bernini; 5. The Sculptors of Versailles; 6. French Influence on American Sculpture. Senior course, first term, 3 hours a week. Prerequisite:

* Also listed as a graduate course.

one of the junior courses in Art and Archaeology. Lecturer, Professor Morey; Preceptors, Professor Morey and Dr. Smith.

*402. Greek Sculpture. A study of the technique, forms, composition and history of Greek sculpture. Lectures and required reading. Preceptorial reading will be selected from Gardner: *Handbook of Greek Sculpture*; Collignon: *Histoire de la Sculpture Grecque*; Joubin: *La Sculpture Grecque*; and from more special monographs. Candidates for Final Special Honors will be required to write a thesis on some such topic as: 1. Grave Stelae and Literary Epitaphs; 2. Significance of Decorative Sculpture; 3. The Female Figure in Free Sculpture; 4. The Ludovisi Throne. Senior course, second term, 3 hours a week. Prerequisite course, Ancient Art 301. Lecturer and Preceptor, Professor Elderkin.

*405. The Revival of Painting in Italy. An outline history of painting in Italy from Cavallini to Michelangelo, with especial regard to the Florentine School. Lectures and required reading. Preceptorial reading: Brown and Rankin: *A Short History of Italian Painting*; selections from general and special treatises. Candidates for Final Special Honors will be assigned extra reading and are expected to prepare a thesis, of which the following are given as typical examples: 1. St. Jerome and St. Augustine in Fifteenth Century Painting; 2. The Annunciation in the Florentine and Sienese School; 3. Herod's Feast in Italian Painting; 4. The School of Ferrara; 5. Umbrian Painting from 1450 to the Death of Perugino; 6. Three Sienese Painters of the Early Renaissance, Sassetta, Matteo di Giovanni, Francesco di Giorgio; 7. Raphael's Origins and Early

* Also listed as a graduate course.

Work to the Year 1507; 8. An Interpretation of the Mythological Paintings of Titian; 9. The Work of Piero della Francesca; 10. Masaccio; 11. The Dante Illustrations of Botticelli. Senior course, first term, 3 hours a week. Prerequisite course: one of the junior courses in Art and Archaeology. Lecturer, Professor Mather. Preceptors, Professor Mather and Dr. Smith.

*406. Northern Painting. Especial attention will be given to the Flemish School, but the chief painters of the Dutch School will be studied, and a few lectures on typical French and English masters of the nineteenth century will treat the leading modern tendencies in the light of their historic origins. Lectures and required reading. Preceptorial reading, from general and special treatises. Extra reading required of candidates for Final Special Honors, who will also be assigned topics for theses similar to those required in course 405. Senior course, second term, 3 hours a week. Prerequisite course: one of the junior courses in Art and Archaeology. Lecturer, Professor Mather. Preceptors, Professor Mather and Dr. Smith.

*407, 408. Classical Architecture. A detailed study of the architecture of the Greeks and Romans in its historical development in antiquity and during the Classical Revival, based chiefly upon the publications of the ancient monuments. The second term is devoted to the history of Renaissance and New Classic architecture. Lectures and preceptorial reading. Preceptorial reading: first term, Anderson and Spiers: *Architecture of Greece and Rome*; Marquand: *Greek Architecture*; second term, Anderson: *Renaissance Architecture in Italy*; Ward: *French Renaissance Architecture*; Moore: *Character of Renaissance Architecture*. Can-

* Also listed as a graduate course.

didates for Final Special Honors are required to present a thesis which shall show familiarity with the special monographs on important architectural sites and particular monuments. Senior course, both terms, 3 hours a week. Prerequisite course, Ancient Architecture 303. Lecturer, Professor Butler. Preceptors, Professor Butler, Dr. Smith, and Mr. Morgan.

409, 410. Applied Elements. The application of Classic architectural principles to the solution of problems in design suitable for beginners: (1) the study of the technique of rendering and indication; (2) major problems involving plans, elevations and sections, the casting of shadows, and rendering in monotone; (3) minor problems principally in perspective. Senior course, both terms, 3 hours a week. Prerequisite course, Architectural Drawing 305, 306. Lecturer and instructor in drawing, Mr. Morgan.

FINAL SPECIAL HONORS

Candidates for Final Special Honors in Art and Archaeology must in sophomore year have made a first or second general group, or if in the third general group, they must have obtained a first or second group in such courses in classics or modern languages as they may have taken. During the junior and senior years they are required to take at least two courses each term in this Department, exclusive of the courses in Architectural Drawing 305, 306. They shall follow the regular lectures, take the regular tests and a final comprehensive examination, but shall be segregated for preceptorial reading, and in certain courses prepare a written thesis on an assigned subject.

For graduate courses in Art and Archaeology, see under the Graduate School in the University Catalogue.

B. DIVISION OF LANGUAGE AND LITERATURE

V. DEPARTMENT OF CLASSICS

DEAN WEST, PROFESSORS WESTCOTT, ROBBINS, PRENTICE, CAPPS, STUART, ABBOTT (CHAIRMAN), DAVID MAGIE, BASORE, HUTSON, FOX, JOHNSON, DURHAM, SCOON, AND DEWING; MR. MILLER, DR. DEFERRARI, MR. WILLIAMS, DR. DITTMER, DR. KEITH, AND MR. READ.

FRESHMAN AND SOPHOMORE YEARS

101. Herodotus and Lucian. Selected portions of Herodotus and the *Vera Historia* of Lucian will be read by the whole class, and in addition a course of lectures on certain topics in Greek life and literature will be given to the class by Professor Prentice. Freshman course, required for the degree of A. B., first term, 4 hours a week. Professors Stuart, Hutson, Fox, Johnson, Durham, and Dewing.
102. Plato and the Golden Treasury. During the first half of the term Plato's *Apology of Socrates* will be read, and parts of the *Crito* and *Phaedo*; in the second half selections from the Greek poets. Freshman course, required for the degree of A.B., second term, 4 hours a week. Professors Prentice, Hutson, Fox, Johnson, Durham, and Dewing.
103. Selections from the Historical Literature of Rome: Livy, Sallust, and Cicero. One hour a week will be devoted, with the two upper divisions, to the study of Roman History; with the lower, to Latin composition and drill in Latin grammar. Freshman course, required of all candidates for the degrees of A.B., Litt.B., and Sc.B., first term, 4 hours a week. Professors Westcott, David Magie, Basore, Fox, Johnson, Durham, Scoon, and Dewing, Mr. Jones, Mr.

- Miller, Mr. Williams, Dr. Deferrari, Dr. Dittmer, and Mr. Read.
104. Tacitus, Pliny, and Latin Verse. The upper divisions in the courses leading to the degrees of A.B., Litt.B., and Sc.B. will read Latin authors 3 hours a week and attend a course of lectures on Roman life and letters 1 hour a week throughout the term, to be given by Professors Abbott, Magie, Stuart, and Westcott. The other divisions will read Latin authors 4 hours a week. During the first half of the term divisions I, II, III, XI and XII will read selections from the *Annals* of Tacitus; other divisions will read the *Letters* of Pliny. During the second half of the term *A Selection of Latin Verse* will be taken by all divisions. Freshman course, required of all candidates for the degrees of A.B., Litt.B., and Sc.B., second term, 4 hours a week. Professors David Magie, Westcott, Basore, Fox, Johnson, Durham, Scoon, and Dewing, Mr. Jones, Mr. Miller, Mr. Williams, Dr. Deferrari, Dr. Dittmer, Mr. Read, and Dr. Keith.
201. Greek Tragedy. Selected plays. Lectures on the development of the drama, on the presentation of plays, on the authors and their works. Sophomore course, required of candidates for the degree of A.B., first term, 3 hours a week. Professors Robbins, Capps, Hutson, Fox, and Johnson.
202. The Odyssey. Selections from the Odyssey will be read, and its structure studied. Lectures and assigned readings in the history of the epic and the romance. Sophomore course, elective for candidates for the degree of A.B., second term, 3 hours a week. Professor Robbins.
203. Roman Comedy. Reading of selected plays of Plautus

and Terence. Sophomore course, elective for candidates for the degree of A.B., required alternative for candidates for the degrees of Litt.B. and Sc.B., first term, 3 hours a week. Professors Stuart, Magie, Basore, Scoon, and Dewing, Mr. Miller, Mr. Williams and Dr. Deferrari.

204. Horace and Catullus. Horace: Odes and Satires; Catullus: Selections. Sophomore course, required of candidates for the degree of A.B., required alternative for candidates for the degrees of Litt.B. and Sc.B., second term, 3 hours a week. Dean West, Professors Stuart, Hutson, Basore, Fox, Johnson, Durham, Scoon, and Dewing, Mr. Miller, Mr. Williams, Dr. Deferrari, and Dr. Keith.

JUNIOR AND SENIOR YEARS

317. Latin Literature of the Republic. Study of the development of the Latin language, of the national character, of the several literary forms, and of Greek influence. Assigned reading chiefly from Ennius, Plautus, Terence, Lucilius, Varro, Cicero, Sallust, and Catullus. Junior course, first term, 3 hours a week. Professor Durham.

Candidates for Honors will have additional reading in some of the authors, and collateral reading in Sellar: *Roman Poets of the Republic*; Tyrrell: *Latin Poetry*, and other books.

318. Roman Literature of the Empire. One lecture, two recitations weekly. The lectures will give a general survey of the history of Roman literature from Augustus to Marcus Aurelius. The other hours will be devoted to the study of representative works of this period, the purpose, construction and literary qualities of which will be discussed by the students.

Junior course, second term, 3 hours a week. Professor Scoon.

Candidates for Honors will be required to read further portions of the works of the authors studied by the rest of the class, as well as selections from other writers of this period, and to present written reports in connection with their reading.

306. Roman History to 400 A.D. Special attention will be given to the study of Roman imperialism, and the main governmental, economic, social, and religious developments in the Republic and the Empire. A reading knowledge of Greek and Latin will not be required. Lectures, class reports, and conferences. Junior course, second term, 3 hours a week. (May count as a course in History). Professor Johnson.

307. Roman Satire. This course will deal mainly with the Satires and the Epistles of Horace and with the Satires of Juvenal. In reading Horace his philosophy of life and the construction of his Satires will be especially studied. In the work on Juvenal the class will consider particularly the poet's attitude as a moralist and as a portrayer of Roman life under the Empire. Junior course, first term, 3 hours a week. Professor Stuart.

Candidates for Honors will be expected to read the Satires and Epistles of Horace entire and selections from Juvenal in addition to the assignment for the whole class; collateral reading in English and occasional written reports will also be required.

308. Latin Philosophical Essays. Reading and discussion of Books I, II, and V of the Tusculan Disputations of Cicero and of selected essays of Seneca. Study of the tendency of Roman philosophy and of the character and the value of Cicero's contributions to phil-

osophical literature. Junior course, second term, 3 hours a week. Mr. Miller.

Candidates for Honors will also read part of Cicero, *De Officiis*, and Books III and IV of the Tusculan Disputations.

305. Greek History. Two lectures will be given each week on Greek History, from the earliest times to the Roman conquest. The third hour will be devoted to preceptorial conferences on reading, in English books, on special topics such as the Methods of Historical Investigation, Historical Criticism, the Value of the Ancient Tradition, Other Sources of Historical Knowledge, etc. Junior course, first term, 3 hours a week. A reading knowledge of Greek and Latin will not be required. (May count as a course in History). Professor Prentice.

313. Greek Comedy. Lectures on the origin and development, form and content of Greek comedy. Two plays of Aristophanes will be studied closely, and a third read rapidly. Junior course, first term, 3 hours a week. Professor Capps.

Candidates for Honors will also read the *Birds* of Aristophanes, the *Epitrepontes* of Menander, and a few of the most significant fragments of lost plays.

314. Greek Tragedy. Two plays of Aeschylus and two plays of Sophocles will be translated and interpreted in class and their literary qualities, dramatic construction, and stage-setting studied. Lectures will be given on Greek Tragedy and collateral reading assigned. Junior course, second term, 3 hours a week. Professor Robbins.

Candidates for Honors will read one additional play of each poet in the original and several in translation. Readings in Butcher, Capps, Murray, and Symonds will also be assigned.

319. Theocritus. Reading of Theocritus, Bion, and Moschus. The development of pastoral poetry in Latin and modern literature will be studied. Junior course, first term, 3 hours a week. Professor Johnson.
320. Plato. One or more short dialogues entire, with substantial portions of others: *Protagoras*, *Phaedo*, *Phaedrus*, *Gorgias*, *Republic*. Study of form, style, and philosophic content. Junior course, second term, 3 hours a week. Professor Hutson.
- *401. Lucretius. Reading of selected books of the *De Rerum Natura* with regard for the philosophic and literary aspects of the poem. Two hours weekly will be devoted to translation and intensive study, one hour of preceptorial character to the discussion of the contents of larger assignments in the author. Required collateral reading. Senior course, first term, 3 hours a week. Professor Basore.

Candidates for Honors will read the entire poem, will have additional collateral reading assigned to them, and will present written reports from time to time.

402. Roman Elegiac Poets. Lectures on the history of the elegy; reading of selections from Tibullus, Propertius, and from the *Amores* of Ovid. Senior course, second term, 3 hours a week. Professor Stuart.

Candidates for Honors will read the *Corpus Tibullianum*, Propertius, and the *Amores* of Ovid entire; also selections from the Greek writers of elegy and from the *Heroides* of Ovid. Collateral reading and written reports will be required.

- *413. Tacitus. Reading of the *Histories* entire, with special attention to the author's style as a writer, and his aims, methods, and sources as a historian. Senior course, first term, 3 hours a week. Professor Westcott.

* Also listed as a graduate course.

Candidates for Honors will also read the last six lives of the Caesars by Suetonius, Plutarch's *Galba* and *Otho*, Pliny's *Letters to Tacitus*, and Henderson's *Civil War and Rebellion in the Roman Empire*.

414. Cicero's Political Writings. Study of Cicero's *De Republica* and *De Legibus*, together with some of his speeches and letters which best illustrate his political theories and practice. Assignments for collateral reading in books dealing with Cicero's life and with Roman public law and religion. Senior course, second term, 3 hours a week. Professor David Magie.

Candidates for Honors will also be required to read additional speeches having political significance, as well as portions of Polybius, Book VI, and other works which present parallels to Cicero's political treatises, and, in connection with the *De Legibus*, the fragments of the *Twelve Tables* and the text of the most important laws. Written reports in connection with the reading will also be required.

415. Greek Lyric Poets. A survey of Greek lyric poetry from the seventh century to the third century, with extensive reading in the elegiac, iambic, and melic poets. Senior course, first term, 3 hours a week. Professor Robbins.

Candidates for Honors who elect this course will read about 1000 lines in Pindar and Bacchylides in addition to the work assigned to the others and will prepare a special report upon some selected author or subject.

- *416. Aristotle. Books, I, II, III, V, and X of the *Nicomachean Ethics* will be read. This work will be supplemented by lectures on Aristotle's place in the history of ethical thought and by a limited amount of

* Also listed as a graduate course.

collateral reading. Senior course, second term, 3 hours a week. Professor Fox.

Candidates for Honors will read Books I-VII, and x, and will be required to complete an extended programme of collateral reading.

*†416 a. Thucydides (alternative to Aristotle 416). Books I-II of Thucydides' history will be read. Discussion will be devoted to such questions as the place of Thucydides in Greek Historiography, his authenticity, his sources, and his style. Collateral reading will be assigned to the members of the class. Senior course, second term, 3 hours a week. Professor Fox.

Candidates for Honors will also read Books III and iv of Thucydides and will have additional collateral reading assigned to them.

419. Greek Epic Poetry. The *Iliad* will be read in class, two hours each week, the entire *Iliad* being studied. The third hour will be given to lectures and conferences on the Origin and Development of the Greek Epics, the History of the Text, Homeric Antiquities, and Historical Problems connected with these poems. Collateral reading on special topics will be assigned, and reports made on these topics. Senior course, first term, 3 hours a week. Professor Prentice.

420. Virgil. A study of the literary methods and poetic art of Virgil; reading and discussion of selected portions of his works; occasional lectures. Senior course, second term, 3 hours a week. Professor David Magie.

*421, 422. Roman Law. The History and Institutes of Roman Law. Sohm: *Institutes of Roman Law*, English translation; Leage: *Roman Private Law*. Spe-

† Thucydides will be given in place of Aristotle only if elected by a sufficient number.

* Also listed as a graduate course.

cial attention will be given to the law of Obligations. Students in the Department of Classics, and others who desire to do so, will read the Institutes of Gaius and of Justinian in Latin. Senior course, both terms, 3 hours a week. Profesor Westcott.

423. The Influence of the Classics in English Literature. The quality of English literature as variously determined by the influence of the classics; the spirit of the classics as manifest in the form and the content of English literature. Readings in Aeschylus, Plato, Aristotle, Theocritus, Bion, Moschus, Horace, Martial; Spenser, Milton, Herrick, Pope, Shelley, Wordsworth, Keats, Tennyson, Swinburne. Senior course, first term, 3 hours a week. Professor Osgood.

Honors readings, besides an extension of the readings in Plato, Spenser, Milton, and Swinburne, will include selections from Sophocles, Lucretius, Virgil, Mantuan, Dryden, Thomson, Landor, and assignments from the following works: Gordon: *English Literature and the Classics*; Livingstone: *The Greek Genius and its Meaning to Us*; Croiset: *Histoire de la Littérature Grecque*, vol. 1; Osgood: *The Classical Mythology in Milton*; Norlin: *Conventions of the Pastoral Elegy*; Jebb: *Life of Bentley*; Mustard: *Classical Echoes in Tennyson*.

All junior and senior courses offered by the Department of Classics are open alike to candidates for Final Special Honors, to students enrolled under the general plan of study who elect the Department, and to qualified students in other departments.

Students not candidates for Final Special Honors in Classics are not required to do the supplementary reading announced in connection with any of the courses described on the foregoing pages.

FINAL SPECIAL HONORS

Candidates for Final Special Honors in Classics must choose the two departmental courses required of them each term from the following list:

JUNIOR COURSES

First Term: Latin Literature 317, Roman Satire 307, Greek Comedy 313.

Second Term: Roman Literature 318, Latin Philosophical Essays 308, Greek Tragedy 314.

SENIOR COURSES

First Term: Lucretius 401, Tacitus 413, Greek Lyric Poets 415, Classical Influences 423.

Second Term: Roman Elegiac Poets 402, Cicero's Political Writings 414, Aristotle 416 (Thucydides 416a†).

Candidates for Final Special Honors in Classics are further required to do additional reading, both *special* and *general*. A definite assignment of special reading is to be completed each term in connection with one or the other (not both) of the two courses selected from the preceding list. A brief account of the scope of the special reading is appended to the description of these courses. A detailed statement of it may be had from either Professor Robbins, Professor Basore, or Professor Hutson, with whom those who think of becoming candidates for Final Special Honors are advised to consult. The special reading is to be followed by the candidate under the supervision of the instructor giving the course, and the candidate's knowledge of the books assigned will be tested in a special examination at the end of that course.

A definite assignment of general reading is also to be completed during the two years of the student's candidacy. The candidate's progress will be informally tested from time

† Thucydides will be given in place of Aristotle only if elected by a sufficient number.

to time, and at the end of his senior year his mastery of the books assigned will be tested by a final examination upon them. The prescribed general reading is as follows: (1) the *Iliad* of Homer; (2) the *Aeneid* of Virgil; (3) Whibley's *Companion to Greek Studies* (certain chapters to be omitted); (4) Sandys' *Companion to Latin Studies* (certain chapters to be omitted).

In the assignment of Final Special Honors, consideration will be given to the standing of the candidate in the eight departmental courses elected, in the examinations on the special reading pursued in connection with four of these courses, and in the final examination on the general reading.

In addition to the courses listed above, the Department offers the following courses, which are open to all qualified students. However, these courses may be taken by candidates for Final Special Honors in Classics only as free electives.

JUNIOR COURSES

First Term: Theocritus 319, Greek History 305.

Second Term: Plato 320, Roman History 306.

SENIOR COURSES

First Term: Greek Epic Poetry 419, Roman Law 421.

Second Term: Virgil 420, Roman Law 422.

For graduate courses in Classics, see under the Graduate School, in the University Catalogue.

VI. DEPARTMENT OF ENGLISH

PROFESSORS HUNT (CHAIRMAN), *HENRY VAN DYKE, HARPER, PARROTT, COVINGTON, SPAETH, OSGOOD, NOYES, GEROULD, ROOT, GRIFFIN, MACDONALD, CROLL, MILES, KENNEDY, HEERMANCE, AND MURCH; *MR. SHELLABARGER, MR. STONE, DR. SHAFER, AND MR. THOMAS.

- 101, 102 *a*. Selected English authors, for special study and for general reading. The principles of composition and rhetoric will be derived therefrom. Frequent reports on assigned reading. Freshman required course, both terms, 2 hours a week for A.B., Litt.B., and Sc.B. freshmen. Professor Osgood. Preceptors, Professors Gerould, Griffin, Kennedy, Murch.
- 101, 102 *b*. Public Speaking and Debate. Offered to freshmen who enter the Cliosophic or the American Whig Society as a substitute for 101, 102 *a*. Freshman course, both terms, 2 hours a week for A.B., Litt.B., and Sc.B. freshmen. Professor Covington, assisted by Mr. Stone and Mr. Thomas.
- 101, 102 *c*. English. Two hours a week will be given to the special study and general reading of selected English authors, with frequent reports on assigned reading; the third hour to rhetoric and composition, with special attention to technical writing. Required of C.E. freshmen, both terms, 3 hours a week. Mr. Stone.
- 201, 202. Outline Sketch of English Literature. A survey of English literature from earliest times to the Victorian Age. Occasional lectures; oral and written recitations; reports on assigned reading. The reading in this course is designed to illustrate the various periods in the history of English literature. Sopho-

* Absent on leave.

more elective, both terms, 3 hours a week. Lecturers, Professors Parrott and Heermance; Preceptors, Professors Root, Croll, MacDonald, and Miles.

301. English Literature: The Renaissance. The revival of learning, the Reformation, the national awakening under the Tudors, and the influence of Italy, in their effect upon English letters. Spenser, Sidney, and Marlowe will be studied. Attention will be paid to the history of the drama and of lyric poetry, and to the narrative of Elizabethan voyagers. Junior course, first term, 3 hours a week. Lecturer, Professor Harper; Preceptors, Professors Gerould, Griffin, Kennedy, Murch.
302. English Literature: Shakespeare. A study of some of Shakespeare's representative plays. Reference books: Dowden: *Shakespeare, His Mind and Art*; Boas: *Shakespeare and His Predecessors*. Junior course, second term, 3 hours a week. Lecturer, Professor Parrott; Preceptors, Professors Gerould, Griffin, Kennedy, Murch.
303. Chaucer and his Contemporaries. Lectures on Chaucer, his period, his language, and his contemporaries. The reading will include the greater part of Chaucer's poetry, together with selections from Langland, Gower, Wyclif, and the author of *Sir Gawaine and the Green Knight*. A thesis of considerable length, embodying the results of independent investigation, conducted under the guidance of the preceptors, will be required of every student. One hour a week will be devoted to lectures and two hours a week to preceptorial conferences. Skeat: *Student's Chaucer*; Skeat: *Piers, the Plowman*. A handbook dealing with the period will also be used. Junior course, first term, 3 hours a week. Lecturer, Professor Gerould;

- Preceptors, Professors Gerould, Griffin, Kennedy, Murch.
304. History of the English Language. Lectures on the general principles of linguistic development, and on the history, vocabulary, and structure of the English language. Junior course, second term, 3 hours a week. Lecturer, Professor Spaeth; Preceptors, Professors Hunt, Gerould, Griffin, Kennedy, Murch.
- 305, 306. Advanced Public Speaking. Open to students who have taken the freshman course in Public Speaking. Limited to 25 men, and not open to English departmental students, except as a free elective. Junior course, both terms, 3 hours a week. Professor Covington and Mr. Thomas.
- *401. Eighteenth Century Literature. A study of leading poets and prose writers from Dryden to Burns. Senior course, first term, 3 hours a week. Lecturer, Professor Root; Preceptors, Professors Root, Croll, Heermance, MacDonald, Miles.
402. Seventeenth Century Literature. Lectures on the poets and prose writers during the age of Milton. The assigned reading will include the larger part of Milton's poetry, his *Areopagitica*, his *Letter on Education*, Browne's *Religio Medici*, Walton's *Compleat Angler*, and selections from the Cavalier poets. Senior course, second term, 3 hours a week. Lecturer, Professor Osgood; Preceptors, Professors Root, Croll, Heermance, MacDonald, Miles.
- *403. English Romanticism. A literary study of the chief writers of the early part of the Nineteenth Century. Senior course, first term, 3 hours a week. Lecturer, Professor Spaeth; Preceptors, Professors Root, Croll, Heermance, MacDonald, Miles.

* Also listed as a graduate course.

- *404. English Literature of the Victorian Period. A study of some of the leading British and American writers of the Victorian period. Senior course, second term, 3 hours a week. Lecturer, Professor Noyes; Preceptors, Professors Root, Croll, Heermance, MacDonald, Miles.
- *405. Elementary Old English. A grammatical and phonological study of Old English, with readings mainly from Old English prose literature. Smith: *Old English Grammar*; Bright: *Anglo-Saxon Reader*. Senior course, first term, 3 hours a week. Prerequisite to English 406. Professor Hunt.
- *406. Advanced Old English. Selections, mainly poetical, from Old English literature will be read, under direction of the professor in charge and the preceptors, two hours a week. One hour a week will be devoted to lectures by the professor in charge on historical and critical topics. Bright's *Anglo-Saxon Reader* and Wyatt's *Beowulf* will be the basis for selections. A thesis will be required. Senior course, second term, 3 hours a week. Prerequisite course: English 405. Professors Hunt and Kennedy.
- 407, 408. Advanced Composition. This course is intended for those who desire special training in English composition. It is open both to departmental students, and to those who have not elected the department, but only those will be admitted who, in the opinion of their instructors in English during the first three years, are likely to profit by it, and are qualified to do the work. The course will be conducted in groups, and the individual student will be expected to practise composition in the particular form best suited to his powers and needs. Such forms may include the Essay,

* Also listed as a graduate course.

Argument, Narrative, Dramatic Writing, and Verse. Senior course, both terms, 3 hours a week. Professor MacDonald, and Preceptors.

409. (Classics 423.) The Influence of the Classics in English Literature. The quality of English literature as variously determined by the influence of the classics; the spirit of the classics as manifest in the form and the content of English literature. Reading in Aeschylus, Plato, Aristotle, Theocritus, Bion, Moschus, Horace, Martial; Spenser, Milton, Herrick, Pope, Shelley, Wordsworth, Keats, Tennyson, Swinburne. Senior course, first term, 3 hours a week. Professor Osgood.
410. Poetics. A study of the theory of poetry in Aristotle and other representatives of ancient opinion, and in certain representatives of modern thought. The nature of the greater forms of poetic art, epic, dramatic, and lyric, and the conditions under which each develops. Senior course, second term, 3 hours a week. Professor Croll.

FINAL SPECIAL HONORS

Juniors and seniors in the Department of English may become candidates for Final Special Honors, in accordance with the general regulations for Final Special Honors. The special regulations are as follows:

A candidate for Final Special Honors in English must take the following courses:

Junior Year

- | | |
|--------------|--|
| First term: | 301. English Literature of the Renaissance |
| | 303. Chaucer and his Contemporaries |
| Second term: | 302. Shakespeare |
| | 304. History of the English Language. |

Senior Year

First term: Two courses, one of which must be chosen from courses 405, 407, 409.

Second term: Two courses, one of which must be chosen from courses 406, 408, 410.

Each candidate shall adopt a consistent, definite, and properly limited plan of study beyond the scope of his course.

At the end of senior year each candidate shall pass an examination based upon all his work in English during junior and senior years.

Each candidate shall follow a prescribed course of reading in extension of the work of each course. At the final comprehensive examination the candidate must present a general knowledge of English history and of the history of the English language and literature.

The special work for Honors shall be chiefly either in literature or in linguistics, as follows:

LITERATURE

A candidate wishing to specialize in Literature shall select for intensive study during junior and senior years one of the following topics:

1. Old English Literature
2. Middle English Literature
3. English Literature of the Renaissance
4. A Single Period of English Literature since 1642
5. English Literature and Political History
6. English Literature and Philosophy
7. English Literature and French, or German, or Italian Literature
8. English Literature and the Classics
9. Theories of Poetry and Fine Art
10. The Development of a Single Literary Form

Note on Topics 1-4. In connection with any of these

topics the candidates shall follow a course of reading illustrating the English philosophy and history of the period, and the origins of its main tendencies.

Note on Topics 5-8. As these topics present English literature particularly in its relation to other subjects, a candidate's choice will usually relate itself to his choice of courses outside of the Department.

Note on Topic 7. As the relations of English literature to these others vary in importance from period to period, the candidate may include more than one of them in his plan, or may confine himself to a more intensive study of one of them in a particularly significant period; such as, for example, English Literature and French Literature in the Eighteenth Century; English Literature and Italian Literature in the Sixteenth Century.

LINGUISTICS

A candidate wishing to specialize in Linguistics shall read selected books on the phenomena of language, on the relation of English to kindred languages, and on the elements of style.

His intensive study shall have as its subject the relation of English to one other language, or the language and style of some selected author.

The candidate shall from time to time in each term report progress in his special reading to his preceptor, and shall do such writing in connection with it as his preceptor shall prescribe.

A statement of Honors reading will be issued.

For graduate courses in English, see under the Graduate School, in the University Catalogue.

VII. DEPARTMENT OF MODERN LANGUAGES

PROFESSORS VREELAND, GAUSS (CHAIRMAN), BUFFUM, COLLINS, HOSKINS, BLAU, PRIEST, MARDEN, CRITCHLOW, KOREN, THAYER, STUART, AND BENDER; DR. VAN DEN VEN; MR. CHAPMAN, MR. MCCONNELL, DR. WALLACE, DR. BÉZIAT, MR. GUIGOU, MR. MORAUD, AND DR. STEVENS;
DR. VITTORINI

GERMANIC SECTION

- 101, 102. Beginners' German. Grammar, reading, and composition. Freshman course, both terms, 3 hours a week. Professor Hoskins.
- 103, 104. Freshman German. Reading of short stories and descriptive prose, with exercises in syntax and composition. Freshman course, both terms, 3 hours a week. Prerequisite course: Entrance German A. Prerequisite to German 203, 204. Professor Bender, Dr. Wallace, and Dr. Stevens.
- 105, 106. Advanced German for Freshmen. Reading of historical, descriptive, and narrative prose, with exercises in composition. Texts are selected to form a general introduction to the study of modern German life and letters. Open to freshmen who have entered on German B. Both terms, 3 hours a week. Either German 105, 106 or 203, 204 is prerequisite to the German courses of junior and senior years. Professors Thayer and Bender, and Dr. Stevens.
- 201, 202. Beginners' German. Grammar, reading, and composition. Sophomore elective course, both terms, 3 hours a week. Professor Hoskins or Dr. Wallace.
- 203, 204. Sophomore German. An introduction to German literature of the eighteenth and nineteenth centuries. Reading of selected works; collateral reading. Sophomore elective course, both terms, 3 hours

a week. Prerequisite course: German 103, 104 or Entrance German B. Either German 203, 204 or 105, 106 is prerequisite to the German courses of junior and senior years. Professors Priest and Thayer, and Dr. Wallace.

- 301, 302. German Literature from Opitz to Schiller. First term: selected works of Lessing will be read and interpreted in the class; collateral reading in both German and English. Second term: selected works of Schiller; collateral reading in both German and English; lectures on German literature from Lessing's death to Schiller's death. Junior course, both terms, 3 hours a week. Prerequisite course: German 105, 106 or 203, 204. Professors Hoskins and Priest.
- 303, 304. Goethe's Life and Works. Lectures and reading. *Goetz von Berlichingen*, *Werthers Leiden*, *Iphigenie*, *Tasso*, *Hermann und Dorothea*, *Faust*, *Gedichte*, *Dichtung und Wahrheit*, with collateral reading. Reference books: English and German works on Goethe's life and on *Faust*. Junior course, both terms, 3 hours a week. Prerequisite course: German 105, 106 or 203, 204. Professor Blau.
- 401, 402. The Romantic School in Germany and German Literature since Goethe's death. This course comprises the reading of selected works, lectures, and collateral reading. Senior course, both terms, 3 hours a week. Prerequisite course: German 105, 106 or 203, 204. Professor Thayer.
- 403, 404. Middle High German. Elements of Middle High German grammar. Readings in mediaeval German epic poetry in the first term, and in the epic and lyric poetry of the same period in the second term. Senior course, both terms, 3 hours a week. Prerequisite course: German 105, 106 or 203, 204. Professors Hoskins and Priest.

ROMANIC SECTION

- 101, 102. Beginners' French. Grammar, composition, and reading. Freshman course, both terms, 3 hours a week. Professors Buffum and Koren, Dr. van den Ven, Mr. Guigou, and Mr. Moraud.
- 103, 104. Freshman French. Reading and selected exercises in French syntax and composition, and collateral reading. Freshman course, both terms, 3 hours a week. Prerequisite course: Entrance French A, or French 101, 102. Prerequisite to French 203, 204. Professors Buffum and Critchlow, Mr. Chapman, Dr. Béziat, and Mr. Guigou.
- 105, 106. Advanced French for Freshmen. Reading of selected texts and thorough drill in the use of the language, its pronunciation and idioms. The course aims at giving the student proficiency in the use of the language and a desirable introduction to the advanced study of French civilization and French literature. Open to freshmen who have entered on French B. Both terms, 3 hours a week. Either French 105, 106 or 203, 204 is prerequisite to the French courses of junior and senior years. Professor Buffum, Mr. Chapman, Mr. Moraud, and Mr. Guigou.
- 201, 202. Beginners' French. Grammar, composition, and reading. Sophomore elective, both terms, 3 hours a week. Professor Koren and Dr. van den Ven.
- 203, 204. Sophomore French. General introduction to the study of French literature. A survey of French literature, based on textbooks, with a study of representative works of different periods. Sophomore elective, both terms, 3 hours a week. Prerequisite course: French 103, 104 or Entrance French B. Either French 105, 106 or French 203, 204 is prerequisite to the French courses of junior and senior years. Pro-

- fessors Vreeland and Stuart. Preceptors, Professors Vreeland and Stuart, Mr. Chapman, Dr. Béziat, and Mr. Guigou.
- 207, 208. Spanish. Grammar, composition, and reading of modern Spanish authors. Sophomore course, both terms, 3 hours a week. Prerequisite to Spanish 307, 308. Professors Marden and Critchlow, and Mr. McConnell.
- 301, 302. French. French Classical Literature. A study of the drama, prose, and social characteristics of the Age of Louis XIV. Class and preceptorial reading, written reports, and occasional lectures. Junior course, both terms, 3 hours a week. Prerequisite course: French 105, 106 or 203, 204. Professor Collins.
305. Italian. Grammar, composition, and reading. Junior course, first term, 3 hours a week. Prerequisite to Italian 306. Professor Koren.
306. Italian. Reading of the *Inferno* of Dante. Literary interpretation, with a study of Dante's life and times. Junior course, second term, 3 hours a week. Prerequisite course: Italian 305. Prerequisite to Italian 407. Professor Gauss.
307. Spanish. General survey of Spanish literature and extensive readings from modern Spanish authors, with practice in composition. Junior course, first term, 3 hours a week. Prerequisite courses: Spanish 207, 208. Prerequisite to Spanish 308. Mr. McConnell and Dr. Béziat.
308. Spanish. Spanish literature of the Golden Age and readings from Cervantes, Calderón, and Lope de Vega. Junior course, second term, 3 hours a week. Prerequisite course: Spanish 307. Mr. McConnell and Dr. Béziat.
- 401, 402. French. The Romantic Movement. A literary

study of the leading French poets and prose writers from Rousseau to Anatole France. Lectures and preceptorial reading. Senior course, both terms, 3 hours a week. Prerequisite course: either French 105, 106 or 203, 204. Professor Gauss. Preceptors, Professors Gauss and Stuart, and Mr. Moraud.

- 403, 404. Old French. A study of the language and literature of France from its origin to the Renaissance. General survey of the history of the language, and the extensive reading of texts with special attention to their literary side. Senior course, both terms, 3 hours a week. Prerequisite course: French 203, 204. Professor Buffum.
405. French Literature of the Eighteenth Century. This course includes a survey of French literature from 1715 to the end of the eighteenth century, with a special study of Voltaire's relations to his times, the *Encyclopédie*, Diderot, and J. J. Rousseau. Senior course, first term, 3 hours a week. Prerequisite course: French 203, 204. Professor Stuart.
406. French Literature of the Sixteenth Century. Extensive reading and selections from the sixteenth century French prose and poetry, with special attention to Montaigne, Rabelais, and the *Pléiade*. It includes also a study of the Renaissance in France, and of the beginnings of Classicism. Senior course, second term, 3 hours a week. Prerequisite course: French 203, 204. Professor Vreeland.
407. Italian. Reading and literary study of the poets of the earlier period and the prose writers of the Renaissance. Senior course, first term, 3 hours a week. Prerequisite course: Italian 306. Prerequisite to Italian 408. Professor Gauss or Dr. Vittorini.
408. Italian. Reading and literary study of the poets of

the Renaissance and modern Italian authors. Senior course, second term, 3 hours a week. Prerequisite course: Italian 407. Dr. Vittorini.

409, 410. Spanish. An advanced course in Spanish language and literature, including a study of Spanish American literature and institutions. Senior course, both terms, 3 hours a week. Prerequisite courses: Spanish 307, 308. Mr. McConnell.

FINAL SPECIAL HONORS

Juniors and seniors in the Department of Modern Languages may become candidates for Final Special Honors, in accordance with the general regulations for Final Special Honors. The special regulations are as follows:

Candidates for Final Special Honors will be enrolled in the regular courses of the Department but shall report in separate preceptorial groups.

1. *Honors Reading.*

A. GERMANIC SECTION: Either additional intensive work along the lines of the regular courses, or specialized work in the following subjects:

- a. The Drama
- b. The Novel
- c. Non-dramatic Poetry
- d. Literary Criticism

Note: A candidate for Final Special Honors must previously have taken Sophomore German 203-204.

B. ROMANIC SECTION:

- a. The Drama
- b. The Novel
- c. Non-dramatic Poetry
- d. Criticism and Literary Theories
- e. History and Memoirs

2. *Reports.* Candidates for Final Special Honors shall make reports, written or verbal, at such times as may be required. At least one such report each term shall be in writing.

3. *Examinations.*

- a. Candidates for Final Special Honors shall be required to pass the regular examinations at the close of each term in junior year, but the subject-matter of the extra reading on which they have made reports will not be embraced in these examinations.
 - b. Seniors in Honors work will be excused from the regular senior examinations in the departmental courses in Honors, but a final comprehensive examination, to be given during the senior examination period and covering all the Honors work (that is, the two departmental courses and the additional reading) done during junior and senior years, will be given at the close of senior year.
 - c. This comprehensive examination shall consist of two sections: one of four hours, which shall cover the work done in the regular courses; and another of four hours, which shall cover the work done in the candidate's special field of study.
 - d. An oral examination may also be given to Honors candidates at the close of senior year.
- A statement of Honors reading will be issued.
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For graduate courses in Modern Languages, see under the Graduate School, in the University Catalogue.

COURSES NOT INCLUDED IN ANY OF THE PRECEDING DEPARTMENTS

HISTORY AND LITERATURE OF RELIGION

- 403, 404. Old Testament Literature. Origin, development, nature and content of the literature of the Old Testament. First term: General introductory lectures upon religion and the Bible, together with a study of the pre-exilic Old Testament literature. The

- reading includes several pre-exilic Old Testament writings, Addis: *The Hebrew Religion*; Kent: *History of the Hebrew People* (United Kingdom and Divided Kingdom). Second term: The exilic and post-exilic Old Testament literature. The reading includes several exilic and post-exilic Old Testament writings, Sabatier: *Philosophy of Religion*; Cornill: *The Prophets of Israel*; Kent: *History of the Hebrew People* (Babylonian, Persian and Greek Periods). Lectures and preceptorial conferences. Senior course, both terms, 3 hours a week. Professor Miller.
- 405, 406. New Testament Literature. Origin, development, nature and content of the literature of the New Testament. First term: General introductory lectures upon religion and the Bible, together with a study of the four Gospels, the life and teaching of Jesus, and the founding of Christianity. The reading includes the four Gospels, Mathews: *New Testament Times*, Cornill: *The Prophets of Israel*, Rhees: *Life of Jesus of Nazareth*, Percy Gardner: *An Historical View of the New Testament*. Second term: Introductory lectures and study of the Pauline and post-Pauline New Testament literature. The reading includes all the New Testament writings not read in the previous term, Sabatier: *Philosophy of Religion*; Ropes: *Apostolic Age*; Weinel: *Paul*. Lectures and preceptorial conferences. Senior course, both terms, 3 hours a week. Professor Miller.

*401. 402. Sanskrit. Senior course, both terms, 3 hours a week. Professor Robbins.

*407. History of Modern Science. This is a non-technical course in the development of scientific thought from the time of Copernicus and Galileo to the present.

* Also listed as a graduate course.

The course runs parallel to the courses in the history of philosophy and of literature and of political and social thought. The character and the influence of the great discoveries in Astronomy, Mechanics, Physics, Chemistry, and Biology will be studied by means of lectures and reading. The general purpose of the course is to give both the technical and the non-technical student information and training in the meaning and historical results of scientific investigation in different fields. Senior course, first term, 3 hours a week. Professor Spaulding.

*401. History and Psychology of Education. This course is designed to meet the needs of students intending to teach. It presents the historical development of the educational principles and institutions which influence the present, and the applications of experimental psychology to the problems of teaching. Lectures and preceptorial work. Open to all students of psychology as an elective. Senior course, first term, 3 hours a week. Professor McComas.

*402. Aesthetics, which treats of the Beautiful as Logic treats of the True and Ethics of the Good, aims to develop the appreciation of beauty, to establish a sound basis for the criticism of art, and indirectly to aid the artist in his creative work. Senior course, second term, 3 hours a week. Dr. Henry Rutgers Marshall.

* Also listed as a graduate course.

C. DIVISION OF MATHEMATICS AND SCIENCE

VIII. DEPARTMENT OF MATHEMATICS

DEAN FINE (CHAIRMAN), PROFESSORS THOMPSON, EISENHART, VEBLEN, GILLESPIE, *BOUTROUX, MAC INNES, AND *WEDDERBURN; DR. ALEXANDER, DR. DEDERICK, DR. PFEIFFER, MR. NYBERG, MR. SMITH, AND MR. WESTER

101. Plane Trigonometry. Hun and MacInnes: *Elements of Plane and Spherical Trigonometry*. Required of all freshmen who have not taken the subject for entrance. Half of first term, 4 hours a week. Professors Gillespie and MacInnes, Dr. Dederick, Dr. Pfeiffer, Mr. Nyberg, and Mr. Wester.
103. Selected portions of Algebra: Undetermined Coefficients, Division Transformation, Partial Fractions, Elementary Theory of Equations, Permutations and Combinations; Review of Plane Trigonometry; Elements of Spherical Trigonometry. Fine: *College Algebra*; Hun and MacInnes: *Elements of Plane and Spherical Trigonometry*. Required of all C.E. freshmen. All of first term, 4 hours a week. Professor Gillespie and Dr. Dederick.
105. Selected portions of Algebra. Division Transformation, Permutations and Combinations, Determinants, and Elementary Theory of Equations. Fine: *College Algebra*. Required of all freshmen who have not taken Plane Trigonometry for entrance. Half of first term, 4 hours a week. Professors Gillespie and MacInnes, Dr. Dederick, Dr. Pfeiffer, Mr. Nyberg, and Mr. Wester.
107. Selected portions of Algebra. Undetermined Coefficients, Division Transformation, Partial Fractions, Elementary Theory of Equations, Permutations and

* Absent on leave.

Combinations, and Determinants; Review of Plane Trigonometry. Fine: *College Algebra*; Hun and MacInnes: *Elements of Plane and Spherical Trigonometry*. Required of all A.B., Litt.B., and Sc.B. freshmen who have taken Plane Trigonometry for entrance. All of first term, 4 hours a week. Professors Fine, Thompson, and Eisenhart, and Mr. Smith.

108. Coördinate Geometry, treated from the Cartesian standpoint. Fine and Thompson: *Coördinate Geometry*. Required of all freshmen. All of second term, 4 hours a week. Professors Fine, Thompson, Eisenhart, Gillespie, and MacInnes, Dr. Dederick, Dr. Pfeiffer, Mr. Nyberg, Mr. Smith, and Mr. Wester.
- 201, 202. Calculus. Elective course, open to all sophomores who are candidates for a bachelor's degree, both terms, 3 hours a week. Prerequisite to the Departments of Mathematics and Physics. Professors Fine, Thompson, and Veblen, and Dr. Pfeiffer.
- 203, 204. Calculus. Required of all C.E. sophomores, both terms, 4 hours a week. Professor Gillespie and Dr. Dederick.
- 205, 206. Analytical Mechanics. Statics; equilibrium of forces, stresses in frames, centers of gravity, moments of inertia. Kinetics; of the particle and rigid body, energy and work, friction, impact. Woodward: *Rational and Applied Mechanics*. Required of all C.E. sophomores, both terms, 3 hours a week. Professors Constant and MacInnes.
303. Analytical Mechanics. Continuation of Analytical Mechanics 206. Woodward: *Rational and Applied Mechanics*. Required of all C.E. juniors, first term, 3 hours a week. Professor MacInnes.

- 305, 306. Coördinate Geometry. Second course. Junior course, both terms, 3 hours a week. Professor Thompson.
- 307, 308. Analysis. Differential Equations and Advanced Calculus. Junior course, both terms, 3 hours a week. Professor Fine.
- 309, 310. Analytical Mechanics. Introductory course. Junior course, both terms, 3 hours a week. Professor Eisenhart.
- *403, 404. Differential Geometry. Prerequisite: Geometry 305, 306. Senior course, both terms, 3 hours a week. Professor Eisenhart.
- *405, 406. Algebra. Theory of equations. Linear dependence. Matrices. Senior course, both terms, 3 hours a week. Professor Fine.
- *407, 408. Projective Geometry. Senior course, both terms, 3 hours a week. [Not given, 1916-17.]
- *409, 410. Analysis. Continuation of 307, 308, including elementary theory of functions of the complex variable. Senior course, both terms, 3 hours a week. [Not given, 1916-17.]

A departmental student who is not a candidate for Final Special Honors in Mathematics shall take two of the above mentioned junior courses in his junior year, and in his senior year two courses of which one shall ordinarily be the third junior course and the other either Physics 403, 404, or one of the above mentioned senior courses.

FINAL SPECIAL HONORS

A candidate for Final Special Honors in Mathematics shall take two of the junior courses in his junior year, and in his senior year any two of the

* Also listed as a graduate course.

remaining three in the list of courses above given for which he is qualified. He shall also be required in connection with the courses which he takes to do work in addition to that required of Non-Honors students.

For regulations regarding Final Special Honors in Mathematics and Physics, see page 130.

For graduate courses in Mathematics, see under the Graduate School, in the University Catalogue.

IX. DEPARTMENT OF PHYSICS

DEAN MAGIE (CHAIRMAN), PROFESSOR LOOMIS, DEAN MC-CLENAHAN, PROFESSORS TROWBRIDGE, ADAMS, ROBINSON,
*COOKE, NORTHRUP AND COMPTON; MR. CRAGOE,
AND MR. FRENCH

- 101, 102. General Physics. General course in physics, including lectures, recitations, and laboratory work. Freshman course, for all C.E. freshmen, and for Litt.B. and Sc.B. freshmen who do not take the alternative course in General Chemistry (Chemistry 103, 104). Both terms, 4 hours a week. For this course a fee of \$5 is charged and a deposit on apparatus of \$5 is required. Professors McClenahan and Compton, Mr. Cragoe and Mr. French.
- 201, 202. General Physics. General course in physics, including lectures, recitations, and laboratory work. Sophomore course, for A.B. sophomores who do not take the alternative course in General Chemistry (Chemistry 201, 202) and for Litt.B. and Sc.B. sophomores who take General Physics. Both terms, 4 hours a week. For this course a fee of \$5 is charged, and a deposit on apparatus of \$5 is required. Professors

* Absent on leave.

- McClenahan and Compton, Mr. Cragoe and Mr. French.
- 203, 204. Heat, Electricity and Magnetism. Lectures based on experimental demonstrations. Frequent written recitations. Sophomore course, elective for Litt.B. and Sc.B. sophomores who have taken General Physics in freshman year. Both terms, 3 hours a week. Professor W. F. Magie.
- 205, 206. Heat, and Electricity and Magnetism. Lectures based on experimental demonstrations. Frequent written recitations. Sophomore course, required of C.E. sophomores. Both terms, 3 hours a week. Professor Loomis.
- 301, 302. Experimental Physics. A course in experimental physics, with lectures and laboratory work. Miller. *Laboratory Physics*. Reference books: Stewart and Gee; Millikan. Junior course, both terms, 3 hours a week. Professor Loomis.
- 309, 310. (Mathematics 309, 310.) Analytical Mechanics. Introductory course. Junior course, both terms, 3 hours a week. Professor Eisenhart.
- 401, 402. Theoretical Physics. A course in the elementary mathematical theories of light and heat. Lectures. Senior course, both terms, 3 hours a week. Prerequisite course: Mathematics 201, 202. Professors Robinson and W. F. Magie.
- 403, 404. Theoretical Physics. A course in the mathematical theory of electricity and magnetism. Lectures. Senior course, both terms, 3 hours a week. Prerequisite course: Mathematics 201, 202. Professor Trowbridge.

HONORS COURSES IN PHYSICS*

The Department of Physics offers, in conjunction with the Department of Mathematics, the following courses,

* For honors course in Celestial Mechanics, see page 149.

which are open to candidates for Final Special Honors in Mathematics and Physics:

309, 310, C. Analytical Mechanics. Introductory course. Junior course, both terms, 3 hours a week. Professor Eisenhart.

311, 312, D. Honors Course in General Physics.

a. Electricity and Magnetism. The electric current. Resistance. Electromotive force. Electrolysis. Batteries. The principles of electrical measurements. The electric field. Electrostatic instruments. The phenomena of discharge. Magnetism.

b. Physical Optics. Elementary discussion of the undulatory theory. Interference, Young's and Fresnel's experiments. Diffraction. Applications to the theory of optical instruments. Double refraction and polarization. Simple cases of effect of crystal plates. Rotary polarization. Dispersion and absorption. Spectrum analysis. Junior course, both terms, 3 hours a week. Professor Trowbridge.

313, 314, E. Experimental Physics. Experiments in mechanics, properties of matter, sound, heat, and light. Junior course, both terms, 3 hours a week. Professor Robinson.

*411, 412, C. Theory of Electricity and Magnetism. Theory of the potential and of lines and tubes of force. The principles of electrostatics. The electrostatic field. System of charged conductors. Dielectrics. Special problems of electrostatics. Currents of electricity in linear conductors. The flow of electricity in solid conductors and in dielectrics. The principles of magnetism. Induced magnetism. Terrestrial magnetism. The magnetic field produced by electric currents. Induction in linear circuits. The general equations of

* Also listed as a graduate course.

the electromagnetic field. Electromagnetic waves and the electromagnetic theory of light. The motion of electrons. Senior course, both terms, 3 hours a week. Professor Adams.

*413, 414, d. Theoretical Physics.

a. Thermodynamics. The classical theories of Clausius and Lord Kelvin. Gibbs' theory of thermodynamic equilibrium. Applications to homogeneous bodies, to the ideal gas, and to solutions.

b. The Electron Theory. Atomic theory of electricity. Properties of moving charges. Electromagnetic mass. Zeeman effect. Conduction of electricity through gases. Determination of the ratio of the charge on an electron to its mass. Determination of the charge. Radioactivity. Roentgen Radiation. Electron theory of electrical and thermal conduction. Theories of atomic structure. Senior course, both terms, 3 hours a week. Professors W. F. Magie and Compton.

*415, 416, e. Experimental Physics. Experiments in electricity and magnetism. Special problems involving exercise in the experimental methods used in research. Senior course, both terms, 3 hours a week. Professor Northrup.

FINAL SPECIAL HONORS IN MATHEMATICS AND PHYSICS

Candidates for honors enter the Honors Courses at the beginning of junior year if they have fulfilled the conditions of entrance prescribed in the general regulations for Final Special Honors.

* Also listed as a graduate course.

The Honors Courses in Mathematics and Physics are as follows:

Junior Year

- A. Geometry 305, 306
- B. Analysis 307, 308
- C. Applied Mathematics (Mechanics) 309, 310
- D. Theoretical Physics 311, 312
- E. Experimental Physics, 313, 314

A candidate for Honors in Mathematics and Physics selects three of these courses, of which one must be the course C, unless a different choice is permitted by the departments.

Senior Year

- a. Differential Geometry 403, 404
- g. Algebra 405, 406
- b. Analysis 409, 410 (Not given, 1916-17)
- c. Applied Mathematics (Electricity and Magnetism)
411, 412
- d. Theoretical Physics 413, 414
- e. Experimental Physics 415, 416
- f. Celestial Mechanics 401, 402

Courses A, B, C, D, E of junior year are prerequisite to the courses a, b, c, d, e of senior year respectively. A candidate for Honors in Mathematics and Physics takes three courses selected from those of the courses a, b, c, d, e, f, g, of which the prerequisites have previously been taken or from those of the courses A, B, C, D, E, which have not been taken.

For graduate courses in Physics, see under the Graduate School, in the University Catalogue.

X. DEPARTMENT OF CHEMISTRY

PROFESSORS MC CAY (CHAIRMAN), NEHER, HULETT, FOSTER, MENZIES, SMITH, VAN NEST, AND TAYLOR; MR. FLEECE, DR. GOSS, MR. RICHARDSON, MR. BLAIR, MR. DOBIE, MR. HARDING, MR. TEAGUE, MR. YOE, MR. BENTON, MR. HARING, MR. MOW, MR. PEASE, AND MR. VICKERY

- 101, 102. General Inorganic Chemistry. Experimental lectures on the elements and their compounds, supplemented by laboratory work. Two lectures and one laboratory exercise of 3 hours each week. Smith: *General Chemistry for Colleges*. Required of C.E. freshmen, both terms, 3 hours a week. Professor Van Nest, assisted by Mr. Blair and Mr. Yoe.
- 103, 104. General Inorganic Chemistry. Experimental lectures on the elements and their compounds, supplemented by laboratory work. Two lectures, one recitation, and one laboratory exercise of 3 hours each week. The laboratory work is in part introductory to qualitative analysis. Smith: *General Chemistry for Colleges*. Freshman course, elective for Litt.B. and Sc.B., alternative to Physics 101, 102. Both terms, 4 hours a week. Prerequisite to all later courses in chemistry and mineralogy and to the Departments of Chemistry, Biology, and Geology. Professor Foster (Section III) and Professor Menzies (Section IV), assisted by Mr. Fleece, Dr. Goss, Mr. Blair, Mr. Dobie, Mr. Harding, Mr. Teague, Mr. Yoe, Mr. Benton, Mr. Haring, Mr. Mow, Mr. Pease, and Mr. Vickery.
- 201, 202. General Inorganic Chemistry. Experimental lectures on the elements and their compounds, supplemented by laboratory work. Two lectures, one recitation, and one laboratory exercise of 3 hours each

week. The laboratory work is in part introductory to qualitative analysis. Smith: *General Chemistry for Colleges*. Sophomore elective, both terms, 4 hours a week. Prerequisite to all later courses in chemistry and mineralogy and to the Departments of Chemistry, Biology, and Geology. Professor Foster (Section I) and Professor Menzies (Section II), assisted by Mr. Fleece, Dr. Goss, Mr. Blair, Mr. Dobie, Mr. Harding, Mr. Teague, Mr. Yoe, Mr. Benton, Mr. Haring, Mr. Mow, Mr. Pease, and Mr. Vickery.

301. Qualitative Analysis. The course involves about 9 hours of laboratory work, besides a classroom exercise, each week. Junior course, first term, 4 hours a week. This course may also be taken as a sophomore elective for Litt.B. and Sc.B. students who have taken Chemistry 103, 104. Prerequisite course: General Chemistry. Required in the Department of Chemistry. Professor Smith, assisted by Mr. Harding.

302. Quantitative Analysis, Part I. The theory and practice of typical gravimetric and volumetric analyses, chiefly the analyses of simple salts. This course involves about nine hours of laboratory work, in addition to one or more class exercises, each week. Junior course, second term, 3 hours a week. Prerequisite courses: General Inorganic Chemistry and Qualitative Analysis. Prerequisite to the later courses in Quantitative Analysis. Required in the Department of Chemistry. Professor McCay, assisted by Mr. Dobie.

For Honors: Reading, reports, and laboratory work.

303. Organic Chemistry. Brief general course. Lectures, recitations, and laboratory work. Moore: *Outlines of Organic Chemistry*. Junior course, first term, 4

hours a week. Required in the Department of Biology and *not open to students in other departments*. This course may be taken by Sc.B. sophomores who have taken Chemistry 103, 104 and who intend to enter the Department of Biology, but only on recommendation of the Department of Biology. Mr. Richardson.

304. Qualitative Analysis. Lectures, recitations, and laboratory work. Junior course, second term, 4 hours a week. Required in the Department of Biology and *not open to students of other departments*. Chemistry 103, 104 or 201, 202 is prerequisite to this course. The course may be taken also by Sc.B. sophomores who have had Chemistry 103, 104 and who intend entering the Department of Biology, but only on recommendation of that department. Professor Van Nest, assisted by Mr. Yoe.
305. Physical Chemistry, Part I. Two lectures and one laboratory period. Senter: *Outlines of Physical Chemistry*. Findlay: *Practical Physical Chemistry*. Molecular theory and molecular weight determinations by standard methods. Junior course, first term, 3 hours a week. Required in the Department of Chemistry. Professor Taylor.

For Honors: Application of the molecular weight methods to special problems and a study of exceptions to the general laws.

306. Organic Chemistry, Part I. Introductory course devoted mainly to the study of the simpler saturated and unsaturated open chain hydrocarbons, alcohols, aldehydes, ketones, and acids, together with their more important immediate derivatives and homologues. Lectures, recitations, and laboratory work. Neher: *Lecture Outlines*; Cohen: *Theoretical Organic Chem-*

istry; Neher: *Laboratory Outlines*; Gattermann: *Practical Methods of Organic Chemistry*. Junior course, second term, 3 hours a week. Required in the Department of Chemistry. Prerequisites: Qualitative Analysis 301 or Physical Chemistry I 305. Professor Neher, assisted by Mr. Richardson.

For Honors: Special reading, conferences, and laboratory work.

401. Quantitative Analysis, Part II. Continuation of Part I, including salts, minerals, and alloys. This course involves about nine hours of laboratory work, in addition to one or more class exercises, each week. Senior course, first term, 3 hours a week. Prerequisite courses: General Inorganic Chemistry, Qualitative Analysis, Quantitative Analysis I. Prerequisite to Quantitative Analysis III. Required in the Department of Chemistry. Professor McCay, assisted by Mr. Dobie.

For Honors: Reading, reports, and laboratory work.

- *402. Quantitative Analysis, Part III. Systematic volumetric analysis: alkalimetry, acidimetry, oxidation methods, direct and indirect; reduction methods, precipitation methods. This course involves about nine hours of laboratory work, in addition to one or more class exercises, each week. Senior course, second term, 3 hours a week. Prerequisite courses: General Inorganic Chemistry, Qualitative Analysis, Quantitative Analysis I and II. Professor McCay, assisted by Mr. Dobie.

For Honors: Reading, reports, and laboratory work.

403. Organic Chemistry, Part II. Continuation of Part I,

* Also listed as a graduate course.

including aliphatic compounds of multiple and mixed function, especially the hydroxy-acids and the dibasic acids with their derivatives, and an introduction to stereochemistry; the carbohydrates and the uric acid group in outline; the simpler cyclic compounds, benzene and its derivatives, aromatic nitrogen compounds, phenols, quinones, dyes, etc. Lectures, recitations, and laboratory work. Texts as given under Part I (306). Senior course, first term, 3 hours a week. Required in the Department of Chemistry. Professor Neher, assisted by Mr. Richardson.

For Honors: Special reading, conferences, reports, and laboratory work.

- *404. Organic Chemistry, Part III. Devoted to a more detailed study of special subjects and theories, malonic ester and acetoacetic ester; carbohydrates; amino-acids and polypeptides; urea, ureides, and purines; benzene theory; dyes and color theory, etc. Lectures, recitations, and laboratory work. Senior course, second term, 3 hours a week. Prerequisites: Parts I and II or equivalents. Cohen: *Organic Chemistry for Advanced Students*. Professor Neher and Mr. Richardson.

For Honors: Special reading, conferences, reports, and laboratory work.

405. Physical Chemistry, Part II. Two lectures and one laboratory period. Senter: *Outlines of Physical Chemistry*. Findlay: *Practical Physical Chemistry*. Theories of solutions, solubilities, determination of solubilities, conductivity, &c. Senior course, first term, 3 hours a week. Required in the Department of Chemistry. Professor Taylor.

For Honors: Application of solubility and conduc-

* Also listed as a graduate course.

tivity to analytic problems. Reading on the theories of solutions.

- *406. Physical Chemistry, Part III. One lecture and two laboratory periods. Nernst: *Theoretical Chemistry*; Ostwald-Luther: *Physiko-Chemische Messungen*. Equilibrium and the velocity of reactions. Senior course, second term, 3 hours a week. Professor Hulett.

For Honors: Reading on the phase rule and experimental application to practical problems.

407. Rise and Development of Chemical Theories. Lectures and written recitations. Meyer: *Modern Theories of Chemistry*; Ostwald: *Outlines of Theoretical Chemistry*. Senior elective course, first term, 3 hours a week. Prerequisite course: General Inorganic Chemistry. Professor McCay.

- *410. Advanced Inorganic Chemistry. Discussion of facts, methods and principles in classroom based upon experimental work in the laboratory and upon assigned reading. Crystal form and habit, isomorphism, X-rays and crystal structure, tests of purity, salt hydrates and their equilibrium conditions, double salts and the phase rule, cooling curves, solidification of molten masses, the thermal equilibrium diagram, aluminothermy, colloids, inorganic isomerism, the cobaltamines, the minor elements, and other topics will receive introductory treatment. This course must be preceded or accompanied by courses 302 and 401. Senior course, second term, four hours a week. Professor Menzies and Dr. Goss.

For Honors: Special reading, conferences, and laboratory work.

* Also listed as a graduate course.

FINAL SPECIAL HONORS

Juniors and seniors in the Department of Chemistry may become candidates for Final Special Honors, in accordance with the general regulations for Final Special Honors.

Candidates for Final Special Honors in Chemistry shall take two courses in Chemistry throughout junior and senior years in conformity to the plan outlined below.

In courses which are mainly of an introductory character, such as the first courses in qualitative and quantitative analysis, organic chemistry and physical chemistry, Honors students will be required to do additional reading, or additional laboratory work, or both. They will meet in special divisions for recitations and conferences and will be given special examinations upon the work of the courses. In the more advanced courses, the work of Honors students will be further distinguished in subject matter as well as in quality and quantity, and, when necessary or advisable, entirely separate courses will be arranged for the accommodation of Honors men.

In place of the regular term examinations at the end of senior year, comprehensive final examinations upon the Honors work of both junior and senior years will be held.

Junior Year

Either 301. Qualitative Analysis and 302. Quantitative Analysis I

305. Physical Chemistry I and 306. Organic Chemistry I

or 401. Quantitative Analysis II and 402. Quantitative Analysis III

305. Physical Chemistry I and 306. Organic Chemistry I

Senior Year

In the first term any two of

- 401. Quantitative Analysis II
- 403. Organic Chemistry II
- 405. Physical Chemistry II

In the second term

- 410. Advanced Inorganic Chemistry, together with one
of
- 402. Quantitative Analysis III
- 404. Organic Chemistry III
- 406. Physical Chemistry III

For graduate courses in Chemistry, see under the Graduate School, in the University Catalogue.

XI. DEPARTMENT OF GEOLOGY

PROFESSORS SCOTT (CHAIRMAN), PHILLIPS, SMYTH, FARR, VAN
INGEN, AND SINCLAIR; MR. HOWELL AND MR. HONESS

- 201, 202. Geology. Beginners' course, covering the subject in outline and designed both for those who intend to pursue the subject further, and for those who desire merely to obtain a general knowledge of the science. Scott: *Introduction to Geology*. Sophomore course, both terms, 3 hours a week. First term, Physical Geology; second term, Outline of the Geological History of the Earth. Prerequisite to courses 301-302, 401, 405. Lecturer, Professor Scott. Preceptors, Professors Farr and Sinclair, and Mr. Howell.
- 301, 302. Structural Geology. Study of the common rocks and their most important structural relations; interpretation of geological maps and sections; the elements of geological surveying and mapping. Essentially a laboratory and field course. Field work

required of all students. Junior course, both terms, 3 laboratory periods of 2 hours each per week. Prerequisite course: Geology 201, 202. Prerequisite to Geology 403 and 405. Professor Sinclair.

For Honors: Additional field work with written reports thereon.

303. Descriptive Mineralogy. Lectures and recitations on descriptive mineralogy, with laboratory practice in determination of the common minerals by means of their physical characters. Phillips: *Mineralogy*. Junior course, first term, 3 hours a week. Prerequisite course: General Chemistry. Prerequisite to courses 403, 407, 408. Professor Phillips and Mr. Honess.

For Honors: Extra reading to be designated and the study of a special collection of minerals comprising 150 species.

304. Determinative Mineralogy. Lectures and laboratory work in blowpipe analysis and the determination of minerals by means of chemical tests. Phillips: *Mineralogy*. Junior course, second term, 3 hours a week. Professor Phillips.

306. Introduction to Palaeontology. The scope, problems, methods, and results of the study of fossil organisms, with special reference to those that have important geological relations. Junior course, second term, 3 hours a week. Lectures and conferences. Prerequisite courses: General Geology or Biology. Professor van Ingen and Mr. Howell.

For Honors: Laboratory work on special collections of fossil plants and animals. Reading of special papers in journals.

[Note: Departmental students must take either 304 or 306; and may take the other as a free elective.]

*401, *402. Historical Geology. The geological history of the earth from its origin to recent times. The geographic, structural, and climatic changes, and the characteristic plants and animals of each period in its history. Lectures, conferences, and field work. Scott: *Introduction to Geology*. Senior course, both terms, 3 hours a week. Prerequisite course: Geology 201, 202. Professors Scott and van Ingen.

For Honors: Extra reading: Geikie: *Textbook of Geology*, vol. ii.; study of certain Geologic Folios; take part in four field trips during each term and prepare report on each; and study a collection of index fossils of the geological formations.

*403. Structural and Dynamic Geology. A study of the composition and structural features of the earth's crust. Lectures, laboratory and field work. Senior course, first term, 3 hours a week. Prerequisite courses: Geology 301, 302 and Mineralogy 303. Professor Smyth.

*404. Economic Geology. The principles controlling the circulation of mineral matter in the earth's crust, and its concentration into workable deposits. Ries: *Economic Geology of the United States*; Kemp: *Ore Deposits of the United States*. Lectures and laboratory work. Prerequisite course: Geology 403. Senior course, second term, 3 hours a week. Professor Smyth.

For Honors in 403, 404, Dynamic and Economic Geology: Reading of chapters in Van Hise: *Metamorphism*, and other monographs of the U. S. Geol. Survey; Harker: *Natural History of Igneous Rocks*; Posepny and others: *Genesis of Ore-Deposits*; Clark: *Data of Geochemistry*; Elsdon: *Principles of*

* Also listed as a graduate course.

Chemical Geology; Lindgren: *Mineral Deposits*.
Study of Geologic Folios.

- *405, 406. Practical Geology. A course designed to give instruction in the exact methods of securing the information upon which the body of geological science is based. It will provide practical training (1) for students who anticipate entering any phase of business connected with the exploitation of natural resources such as fuels, ores, and building materials, and (2) for students who expect to engage in teaching or in professional work on the staffs of museums and federal or state surveys. Lectures, laboratory, library and field work. Senior course, both terms, 3 hours a week. Prerequisites: Geology 201-202, 301-302 or Palaeontology 306. Professor van Ingen and Mr. Howell.

For Honors, students will be required to give special attention to two instead of one of the phases of the geological investigation of the region studied.

- *407. Crystallographic Mineralogy. Lectures and laboratory work on crystallography and the optical properties of crystals. Phillips: *Mineralogy*. Senior course, first term, 3 hours a week. Prerequisite course: Mineralogy 303. Professor Phillips and Mr. Honess.

For Honors: Extra reading to be designated, and additional drawing of crystal forms with cutting of crystal models.

- *408. Optical Mineralogy. Lectures and laboratory work on the optical properties of the rock-forming minerals, with instruction in the general practice of petrographic methods. Phillips: *Mineralogy*. Senior course, second term, 3 hours a week. Prerequisite course: Mineralogy 407. Professor Phillips and Mr. Honess.

* Also listed as a graduate course.

For Honors: Two hours additional laboratory work on goniometer and in grinding mineral and rock sections. Study chapters of Tutton: *Crystallography*; Groth-Jackson: *Optical Mineralogy*, and Iddings: *Rock Minerals*.

FINAL SPECIAL HONORS

Each candidate shall take two departmental courses of junior year and at least three of the four departmental courses of senior year. In the first term of junior year he must take 301 and 303. In the second term he must take 302 and either 304 or 306, and he may elect both, taking the third course as a free elective. In the latter event he will be held for honors work in 302 and that one of the other two courses to be indicated by him.

In senior year, 401-402 and 403-404 and a third course will be taken, and if a fourth course in the Department be taken as a free elective and so indicated by the candidate, honors work will not be required in it.

In addition to the extra work mentioned under the individual courses he may elect, each candidate will be expected to read during his two years the works mentioned below. Those marked with an asterisk are recommended for reading during junior year.

*Lyell: *Principles of Geology*, vol. I, except chapters II, III, and IV.

*Willis: *Mechanics of Appalachian Structure*, (13th Ann. Rept. U. S. Geological Survey).

*Geikie: *Founders of Geology*

*Davis: *Geographical Essays*; chapters 3, 12-26

*Bernard: *Principles of Palaeontology*, translation in 48th Report Regents University State of New York, vol. II, p. 127-215

Palaeontological Society Conference Papers on the Aspects of Palaeontology

Iddings: *Volcanism*

Bain: *Types of Ore Deposits*

Yale University: *Problems of American Geology*

Wright, W. B.: *The Quaternary Ice Age*

GEOLOGY CLUB

The Geology Club, for the discussion of investigations and for the review of current literature, meets weekly. Active participation is required of all graduate students in Geology, and of candidates for Final Special Honors in Geology.

SUMMER COURSE IN FIELD GEOLOGY

Juniors who contemplate electing the major part of their senior studies in the Department of Geology are strongly advised to take part in the optional field work which will be offered during a portion of each summer vacation. Field parties have operated in recent years in the Champlain and Mohawk valleys in New York, in central Pennsylvania, Wyoming, Nebraska, and Newfoundland.

Graduate students are advised to join a field party during the summer previous to their first year of residence.

For graduate courses in Geology, see under the Graduate School, in the University Catalogue.

XII. DEPARTMENT OF BIOLOGY

PROFESSORS SCOTT, RANKIN, MCCLURE, CONKLIN (CHAIRMAN), DAHLGREN, SHULL, FARR, HARVEY, AND CARY;

DR. PATON, DR. MAYER; MR. SILVESTER, MR. FOGLER,

MR. MACY, MR. HELMICK, AND MR. IRISH

201, 202. General Biology. Lectures, laboratory work, and recitations. An introduction to the fundamental properties of living things, their functions, structures, classification, habits, life-histories, and evolution.

Selected forms are studied in the laboratory as illustrating the chief principles and generalizations of biology. Sophomore elective for students in all courses, both terms, 3 hours a week. Must be preceded or accompanied by General Chemistry 103, 104, or its equivalent. Prerequisite to the subsequent courses in Biology, except Botany 303, 304. Professors Conklin and Cary, Mr. Fogler, and Mr. Irish.

303. 304. Botany. Practical work in the field and laboratory, lectures and recitations. An introduction to the general principles of plant life. Besides the structure and functions of plants, their taxonomy and their relation to their environment will be studied, use being made of the facilities offered by the grounds of the University. Junior course, both terms, 3 hours a week. Professor Rankin.
305. Comparative Osteology. Ontogeny and comparative structure of the skeletons of the different classes of vertebrates. Exercises in descriptive work. Each student must prepare a thesis on a skeleton especially assigned for his study. Junior course, first term, 3 hours a week. Must be preceded or accompanied by General Biology 201, 202. Professor Farr.
306. Invertebrate Zoology. Lectures and laboratory work on selected phyla of invertebrates. Junior course, second term, 3 hours a week. Prerequisite course, General Biology 201. Professor Cary.
- *401. Comparative Anatomy of Vertebrates. Lecture and laboratory course. Lectures on the comparative anatomy of the organ systems of vertebrates, and dissection of the dog-fish and a mammal. Senior course, first term, 3 hours a week. Prerequisite courses: Sophomore and junior courses in Biology. Professor McClure and Mr. Silvester.

* Also listed as a graduate course.

- *402. Vertebrate Embryology. Lecture and laboratory course. A comparative study of the development of vertebrates. Senior course, second term, 3 hours a week. Prerequisite course: Comparative Anatomy 401. Professor McClure and Mr. Silvester.
- *403. Histology. A study of protoplasm, cells, and tissues as they underlie animal and vegetable life; the histology of the fundamental tissues of support, energy production, sensation and conduction. Senior course, first term, 3 hours a week. Prerequisite course: Biology 201, 202. Professor Dahlgren.
- *404. Advanced Histology. The comparative Histology of the tissues of reproduction, assimilation, circulation, excretion and secretion. Practice in microscopical technic. Thesis. Senior course, second term, 3 hours a week. Prerequisite course: Histology 403. Professor Dahlgren.
- *406. Vertebrate Palaeontology. Lectures and laboratory work on fossil vertebrates. Senior course, second term, 3 hours a week. Prerequisite courses: Biology 201, 202, and Osteology 305. Professors Scott and Farr.
- *407, *408. General Physiology. Lectures and laboratory work. An introduction to the phenomena exhibited by living matter. The substances of which organisms are composed will be studied and their rôle in the functioning of the cell discussed. The general physiology of muscle and nerve tissue, of the digestive tract (including absorption, nutrition, secretion and excretion) and of the circulatory system (including respiration) will then be taken up, followed by an account of the coordinate activities of the nervous system, reflexes, tropisms, and the phenomena of re-

* Also listed as a graduate course.

production, growth and regeneration. Senior course, both terms, 3 hours a week. Prerequisite course: Biology 201, 202. Professor Harvey, assisted by Mr. Fogler.

- *409, 410. Genetics. Lectures, recitations, and laboratory work. The development, variation, modification and inheritance of morphological and physiological characteristics of plants and animals, and the application of the principles of genetics to the improvement of plants, animals, and man. Laboratory work will consist largely of actual research on simple problems calculated to give facility in the collection and analysis of data, and an insight into the principles involved in development, variation and heredity. Well written theses presenting the results of the laboratory work will be expected of each student. Senior course, both terms, 3 hours a week. Prerequisite course: Biology 201, 202. Professor Shull and Mr. Helmick.

FINAL SPECIAL HONORS

Juniors and seniors in the Department of Biology may become candidates for Final Special Honors, in accordance with the general regulations for Final Special Honors.

1. Candidates for Final Special Honors in Biology must take the course in General Biology (201, 202) either in their sophomore or junior year.

2. In junior year they must take:

Advanced General Biology (301); 3 hours a week, with reading and laboratory work, 1st term.

Invertebrate Zoölogy (306); with 3 hours a week supplementary reading and laboratory work, 2nd term.

Botany (303, 304); with 3 hours a week supplementary reading and laboratory work, both terms.

* Also listed as a graduate course.

3. In senior year they must take two of the following courses:

Comparative Anatomy (401); with 3 hours a week supplementary reading and laboratory work, 1st term. Vertebrate Embryology (402); with 3 hours a week supplementary reading and laboratory work, 2nd term.

General Physiology (407, 408); with 3 hours a week supplementary reading and laboratory work, both terms.

Histology (403, 404); with 3 hours a week supplementary reading and laboratory work, both terms.

Genetics (409, 410); with 3 hours a week supplementary reading and laboratory work, both terms.

4. In place of the regular term examinations at the end of senior year, candidates for Final Special Honors in Biology shall take comprehensive examinations covering the Honors work of both junior and senior years.

5. In addition to the supplementary work in connection with each of the courses named, candidates for Final Special Honors in Biology are expected to read the following works before the close of senior year and to pass an oral examination on them:

Beddard: *Geographical Distribution*

Darwin: *Origin of Species*

Ganong: *The Living Plant*

Huxley: *Man's Place in Nature*

Kellogg: *Darwinism Today*.

Locy: *Biology and its Makers*

Mendel: *Experiments in Plant Hybridization*

Wallace: *Malay Archipelago*

Walter: *Genetics*

Weismann: *The Germ Plasm*

For graduate courses in Biology, see under the Graduate School, in the University Catalogue.

XIII. DEPARTMENT OF ASTRONOMY

PROFESSORS RUSSELL (CHAIRMAN) AND DUGAN

301. Astronomy. Elementary Astronomy. Mainly descriptive, exhibiting the leading facts regarding the solar system and an elementary explanation of the methods by which they are ascertained. Recitations on text-book, with lectures. Young: *Manual of Astronomy*. Junior course, first term, 3 hours a week. Professor Russell.
302. Astronomy. Stellar Astronomy. A review of the present state of knowledge concerning the stars. Stellar positions, proper-motions, radial velocities, and parallaxes; group and stream motions; visual and spectroscopic binaries; stellar spectra, colors, and temperatures; variable and new stars; masses and densities of the stars; characteristics of different spectral types; distribution of the stars in space; clusters and nebulae; theories of stellar evolution. Lectures. Junior course, second term, 3 hours a week. Professor Russell.
- *401, 402 f. Astronomy. Honors Course in Celestial Mechanics. Open to candidates for Honors in Mathematics and Physics. Elliptic motion; determination of orbits; disturbed motion; tidal evolution. Moulton: *Introduction to Celestial Mechanics*. Senior course, both terms, 3 hours a week. To be eligible to this course, a student must be familiar with the differential and integral calculus, and the elements of differential equations. Professor Russell.
- 403, 404. Astronomy. Practical Astronomy. The principal methods and instruments of astronomical observation; determination of latitude and time; work with

* Also listed as a graduate course.

the sextant, transit, equatorial, and spectroscope. Classroom exercises, with observatory work. Campbell: *Elements of Practical Astronomy*. Senior course, both terms, 3 hours a week. Prerequisite course, Astronomy 301. Professor Dugan.

FINAL SPECIAL HONORS

Candidates for Final Special Honors in Astronomy are required to take courses 301, 302, 401, 402, 403, 404.

In junior year, they shall also take one course in each term in some subject cognate to that of their department. This course will be assigned in each individual case by the department, after conference with the student.

The additional work planned for the two years for such candidates is as follows:

Junior Year

Study of the heavens with the naked eye. Identification of the stars, planets and other heavenly bodies, and study of their motions, both by observation and with the aid of ephemerides. Study of astronomical photographs of the moon and stars.

Books of reference: Schurig: *Himmels-Atlas*; American Ephemeris.

Senior Year

Telescopic observation of the heavenly bodies. Study of special problems in Practical Astronomy. Readings on selected topics in current astronomical literature.

For graduate courses in Astronomy, see under the Graduate School, in the University Catalogue.

XIV. DEPARTMENT OF HYGIENE AND PHYSICAL EDUCATION

PROFESSORS RAYCROFT (CHAIRMAN), LUEHRING, AND TOOKER;
DR. VANNEMAN, MR. SULLIVAN AND MR. FOGGITT

The aim of the work in this Department is to promote the general health and physical efficiency of the students; and to stimulate the formation of habits of rational exercise and healthy living that will be continued after graduation. All members of the freshman class are required to take regular work as indicated below.

Personal Hygiene. Lectures and recitations. A discussion of the fundamentals of health and physical efficiency; the influence of diet, exercise, bathing and sleep; the effects of personal habits; the use of alcohol and tobacco; and a study of the more common infectious diseases—their nature, causes, methods of transmission and prevention. The lectures will be illustrated by the use of manikins, diagrams, and lantern slides. Reference books: Hough and Sedgwick, Woodhull, and Pyle. Freshman course, both terms, 1 hour a week. Professors Raycroft, Luehring, and Tooker.

Physical Examinations. Each student is given a careful physical examination which serves as a basis for advice as to special corrective exercises, if needed, and affords an opportunity for a discussion with each individual on the various practices and habits that affect his physical and mental efficiency. This examination includes a few anatomical observations; strength tests for determining muscular efficiency; and an examination of the eyes, nose, ears, throat, and the vital organs. Professors Raycroft, Luehring, and Tooker, and Mr. Foggitt.

Graded Exercises. The work consists of a large variety of games and exercises conducted under the supervision

of the Department. It is graded to meet the needs and ability of those in the classes, and is conducted out-of-doors whenever possible. The student may select the squad or class with which he will work, but every freshman must pass a test in swimming, in which classes are organized for beginners. Life-saving and methods of resuscitation are taught in all classes. Required of all freshmen, both terms, 3 hours a week. Professors Luehring and Tooker, Mr. Sullivan, and Mr. Foggitt.

COURSES NOT INCLUDED IN ANY ONE OF THE PRECEDING DEPARTMENTS

Graphics 201 *a*. Elementary Drafting. Taken by beginners, in conjunction with 201 *b*, the two having three hours credit. Elective in sophomore and higher years. First term, one exercise a week. Professor Willson.

Graphics 201 *b*. Descriptive Geometry. The fundamental problems of the point, line and plane, with applications to developable and other surfaces, and including trihedrals. Practically applied in the solution of problems on the drawing-board and by the construction of models. Elective in sophomore and higher years. Prerequisite to course 202 *b*, first term, two three-hour periods (afternoons) a week. Professor Willson.

Graphics 202 *a*. Extension of 201 *a*. Second term, one exercise a week, but taken in connection with 202 *b* for a three-hour credit. Elective in sophomore and higher years. Professor Willson.

Graphics 202 *b*. Descriptive Geometry. Advanced course, with applications. Elective in sophomore and higher years when 201 *b* has been taken. Two three-hour

periods (afternoons) a week in second term. Professor Willson.

Graphics 202 *c*. Stereotomy. Applications of descriptive geometry to problems in stone cutting. Taken with 202 *b* as an alternative to 202 *a* when the equivalent of the latter has already been taken. Elective in sophomore and higher years, second term, one exercise a week. Professor Willson.

Military History, Policy, and Minor Tactics 301, 302. This course will deal with the more important wars, campaigns, and battles; the military policy of the United States, what it has been and what it should be; and a series of practical exercises on the map and on the ground, supplemented by selections from the official military correspondence course. Readings from Steele: *American Campaigns*; German General Staff: *Boer War*; British General Staff: *Russo-Japanese War*; Upton: *Military Policy of the United States*; War College Documents 9053-90, *A Proper Policy for the United States*; Von der Goltz: *Conduct of War*; *Studies in Minor Tactics*. Lectures, preceptorial conferences, and required reading. Junior and senior course, both terms, three hours a week. Open only to students who have attended one of the Government Military Training Camps. Captain Heintzelman.

Surveying 302. A general outline of methods of surveying and their uses. Raymond: *Surveying*. Junior course, second term, 3 hours a week. Professor Harris.

Heat Power Engineering (Civil Engineering 401, 402). General relation of the factors of energy and power considered analytically and graphically; gas and vapor energy cycles; power, efficiency and performance of steam engines, turbines, boilers and auxiliary apparatus; fuels and combustion. Hirschfeld and Barnard: *Heat Power Engineering*. Laboratory work consist-

ing of tests of steam engines, boilers, injectors, blowers and gas engines, is taken up in the second term, and a complete inspection of the University Power Plant is made. Both terms, 3 hours a week. Professor Dirks, assisted by Mr. Condit in the laboratory.

Physical Geography 302. Morphology of the continents. Guyot: *Physical Geography; Earth and Man*; Davis: *Physical Geography*; Tarr: *Elementary Physical Geography*; Mill: *Realm of Nature*. Junior course, second term, 3 hours a week. Professor Libbey.

Honors Reading: Salisbury and Atwood: *Interpretation of Topographical Maps*; Russell: *Rivers of North America*; Russell: *Lakes of North America*; Russell: *Glaciers of North America*; Dutton: *Earthquakes*; Poulett-Scrope: *Volcanoes*; Dana: *Volcanoes*; Geikie: *Earth Sculpture*.

DEPARTMENT OF CIVIL ENGINEERING

PROFESSORS CONSTANT (CHAIRMAN), WILLSON, SMITH, HARRIS, BEGGS, AND DIRKS; MR. CONDIT, MR. CAMPBELL, AND MR. MAC MILLAN.

THE FRESHMAN YEAR

English 101, 102 c. Two hours a week will be given to the special study and general reading of selected English authors, with frequent reports on assigned reading; the third hour to rhetoric and composition with special attention to technical writing. Both terms, 3 hours a week. Mr. Stone.

Physics 101, 102. General Physics. General course in physics, including lectures, recitations, and laboratory work. Both terms, 4 hours a week. For this course a fee of \$5 is charged, and a deposit on apparatus of \$5 is required. Professors McClenahan and Comp-ton, Mr. Cragoe, and Mr. French.

Selected Portions of Algebra 103. Undetermined Coefficients, Division Transformation, Partial Fractions, Elementary Theory of Equations, Permutations and Combinations; Review of Plane Trigonometry; Elements of Spherical Trigonometry. Fine: *College Algebra*; Hun and MacInnes: *Elements of Plane and Spherical Trigonometry*. First term, 4 hours a week. Professor Gillespie and Dr. Dederick.

Mathematics 108. Coördinate Geometry, treated from the Cartesian standpoint. Fine and Thompson: *Coördinate Geometry*. Second term, 4 hours a week. Professors Fine, Thompson, Eisenhart, Gillespie and Mac Innes; Dr. Dederick, Dr. Pfeiffer, Mr. Nyberg, Mr. Smith, and Mr. Wester.

Chemistry 101, 102. General Inorganic Chemistry. Experimental lectures on the elements and their compounds, supplemented by laboratory work. Two lec-

tures, one recitation, and one laboratory exercise of 3 hours each week. Smith: *General Chemistry for Colleges*. Both terms, 4 hours a week. Professor Van Nest, assisted by Mr. Blair and Mr. Yoe.

Engineering Drawing 101, 102. Lettering, line work, orthographic and isometric projections, freehand dimensional sketching from objects, assembly and working drawings from the freehand sketches of others in ascending order of complexity; tracing and blueprinting. French: *Engineering Drawing*. Both terms. First term, two credits a week, second term, one credit a week, of 3 hours each. Professor Dirks and Mr. Condit.

Geodesy 101, 102. Land surveying. Theory of chain and compass surveys with problem work in latitudes and departures and calculation of areas. The United States system of surveying the public lands. Leveling. Theory and adjustment of the level. Elements of topography. Lectures, recitations and office work during the second half of the first term and the first half of the second term.

Field practice. Compass survey, including all interior details and topography. Office work, calculations, and finished map including contours. Level adjustments and check levels. Completed during the second half of the second term. Gillespie-Staley: *Land Surveying*. First term, one credit, second term, two credits a week. Professor Harris, Mr. Campbell, and Mr. Mac Millan.

Personal Hygiene. Physical examinations, graded exercise. A discussion of the fundamentals of health and physical efficiency; the influence of personal habits; the use of alcohol and tobacco; and a study of the more common infectious diseases—their nature, causes,

methods of transmission and prevention. The lectures will be illustrated by the use of manikins, diagrams, and lantern slides. Reference books: Hough and Sedgwick, Woodhull, and Pyle. Freshman course, both terms, 1 hour a week. Professors Raycroft, Luehring, and Tooker.

Physical Examinations. Each student is given a careful physical examination which serves as a basis for advice as to special corrective exercises, if needed, and an opportunity for a discussion with each individual on the various practices and habits that affect his physical and mental efficiency. This examination includes a few anatomical measurements; strength tests for determining muscular efficiency; and an examination of the eyes, nose, ears, throat, and the vital organs. Professors Raycroft, Luehring, and Tooker; and Mr. Foggitt.

Graded Exercises. The work consists of a large variety of games and exercises conducted under the supervision of the department. It is graded to meet the needs and ability of those in the classes, and is conducted out-of-doors whenever possible. The student may select the squad or class with which he will work. Every freshman must pass a test in swimming. Classes are organized for beginners. Life-saving and methods of resuscitation are taught advanced classes. Required of all freshmen, both terms, 3 hours a week. Professors Luehring and Tooker; Mr. Sullivan and Mr. Foggitt.

THE SOPHOMORE YEAR

Physics 205, 206. Heat, and Electricity and Magnetism. Lectures based on experimental demonstrations. Frequent written recitations. Edser: *Heat*; Hadley:

Magnetism and Electricity. Both terms, 3 hours a week. Professor Loomis.

Mathematics 203, 204. Calculus. Both terms, 4 hours a week. Professor Gillespie and Dr. Dederick.

Analytical Mechanics 205, 206. Statics; equilibrium of forces, stresses in frames, centers of gravity, moments of inertia. Kinetics; of the particle and rigid body, energy and work, friction, impact. Woodward: *Rational and Applied Mechanics*. Both terms, 3 credits a week. Professors MacInnes and Constant.

Engineering Drawing 201, 202. Continuation of Engineering Drawing 101. French: *Engineering Drawing*. First term, 2 credits of 3 hours each a week. Professor Dirks and Mr. Condit.

Graphics 201, 202. Descriptive geometry of the point, line, plane; intersections, development and model-making. Applications of descriptive geometry in engineering structures. Elementary kinematic problems. Both terms, 2 credits of 3 hours each a week. Professor Willson.

Geodesy 201. Structure and adjustment of engineer's field instruments. Theory of leveling, contouring, triangulation and stadia measurements. Problems in parting off land. Lectures, recitations, and office work. Tracey: *Plane Surveying*. First term, 3 credits a week. Professor Harris, Mr. Campbell and Mr. Mac Millan.

Geodesy 202. Railroad engineering. Theory of simple curves, mathematics and field methods with problems. Lectures, recitations and office work. Searles: *Field Engineering*. During the last two-thirds of the term surveying, field practice, adjustments of instruments, leveling, contouring, triangulation and stadia surveys. Office work mapping the surveys. Second term, 3

credits a week. Professor Harris, Mr. Campbell and Mr. Mac Millan.

Geology 202. Elementary course. General outline of the subject, including dynamical, structural, and historical geology. Scott: *Introduction to Geology*. Reference book: Chamberlin and Salisbury: *Geology*. Second term, 3 hours a week. Professor Farr.

THE JUNIOR YEAR

Analytical Mechanics 305. Continuation of Analytical Mechanics 206. First term, 3 hours a week. Professor MacInnes.

Civil Engineering 301. Mechanics of materials. Strength and elasticity of materials and applications to beams, columns and shafts. Boyd: *Strength of Materials*. First term, 4 credits consisting of 3 recitations and 1 problem exercise of 3 hours a week. Professor Beggs.

Civil Engineering 302. Reinforced concrete. Mechanics of reinforced concrete beams, slabs and columns. Second term, 3 credits consisting of 2 recitations and 1 problem exercise of 3 hours a week. Professors Constant and Beggs.

Civil Engineering 303, 304. Laboratory work. The work consists of a series of exercises in the testing of materials of construction in tension, compression, torsion and flexure, of specimens and full sized structural members of wood, steel, cement and reinforced concrete. A study of the elastic properties of the materials is made by the use of micrometers, extensometers, and other instruments of precise measurement, and so far as possible the laboratory is made to supplement the theoretical work in the class room in the mechanics of materials. First term, 2 credits a week consisting of 2 laboratory exercises of 3 hours

each. Second term, 1 credit a week consisting of 1 laboratory exercise. Mr. Condit.

Civil Engineering 306. Structural design. Elements of structural design. Design of railway plate girder. Stresses in beams, girders and simple trusses. Complete stresses for a railway truss bridge. Conkling: *Structural Steel Drafting*; *A. R. E. Specifications*; *Steel Hand Books*; *Blue Prints of Shop Drawings*. Second term, 3 credits a week consisting of 2 recitations and 1 drawing room exercise of 3 hours. Professor Beggs.

Civil Engineering 307, 308. Machine Design. Motion in mechanisms, energy in machines, proportions of machine parts as dictated by stress, and the design of machine parts, such as fastenings, bearings, shafts, journals, belting, flywheels, pulleys, spur and bevel gears. Smith and Marx: *Machine Design*. Both terms, 2 credits a week of 3 hours each. Professor Dirks and Mr. Condit.

Civil Engineering 310. Hydraulics. Theory of hydraulics, including the elements of the theory of water wheels. Second term, 3 hours a week. Professor Smith. (In 1916-17 this course will also be required of all C.E. seniors in the first term, 4 hours a week, including laboratory measurements of the flow of water.)

Geodesy 301. Town, mine and hydrographic surveying. Lectures, recitations and field work, extending during the first two-thirds of the term. Raymond: *Surveying*. The remainder of the term is spent upon railroad engineering. Lectures, recitations, problems and field work. Searles: *Field Engineering*. First term, 3 credits a week. Professor Harris, Mr. Campbell and Mr. Mac Millan.

- Geodesy 302. Railroad and road engineering. Lectures, recitations and problems. Searles: *Field Engineering and Spiral*. Roads and Pavements. Morrison: *Highway Engineering*. Second term, 3 credits a week. Professor Harris, Mr. Campbell and Mr. Mac Millan.
- Geodesy. Summer field practice. Extended field operations and office work occupying the two weeks following the close of the second term of the junior year. Professor Harris, Mr. Campbell and Mr. Mac Millan.
- Economics 305, 306. Elements of Economics. This course will comprise the fundamental theories of economics and some of their more important applications and exemplifications, such as money, banking, transportation, international trade, and monopoly problems. One lecture a week and two recitations in small groups in which special problems of importance to engineers are studied. Fetter: *Principles of Economics*, and *Source Book in Economics*. Both terms, 3 hours a week. Professors Fetter and Adriance.

THE SENIOR YEAR

The seniors are required to report on the Monday preceding the week in which the first term begins (Sept. 17th in 1917) at 9.00 A. M. to engage in a railway survey and location in the vicinity of the University. They will be required to give their entire time to this work until Friday of the first week of the term (Sept. 28th in 1917), at which time all work must be completed. Seniors will be expected to be prepared for and to attend the regular classes on the following day.

Electrical Engineering 401, 402. Applied Electricity. An outline of methods of generation, transmission and utilization of electrical energy. Principal characteristics of direct and alternating current apparatus with

regard to selection, installation, testing and operation of electrical machinery. Both terms, 3 hours a week, with laboratory work. Professor MacLaren and Mr. Egerton.

Civil Engineering 401, 402. Heat Power Engineering. General relation of the factors of energy and power considered analytically and graphically; gas and vapor energy cycles; power, efficiency and performance of steam engines, turbines, boilers and auxiliary apparatus; fuels and combustion. Hirshfeld and Barnard: *Heat Power Engineering*. Laboratory work, consisting of tests of steam engines, boilers, injectors, blowers and gas engines, is taken up in the second term, and a complete inspection of the University Power Plant is made. Both terms, 3 hours a week. Professor Dirks, assisted by Mr. Condit in the laboratory.

Civil Engineering 403. Framed Structures. Continuation of the theory of stresses in simple trusses and the complete design of a railway truss bridge. Conkling: *Structural Steel Drafting*; Kunz: *Design of Steel Bridges*. First term, 4 hours a week, consisting of 2 recitations and 2 drawing room exercises of 3 hours each. Professor Beggs.

Civil Engineering 404. Framed Structures. Deflections. Theory of steel and concrete arches, cantilever and swing bridges, steel frame buildings. Power and mechanism for movable bridges. Bridge specifications, manufacture, erection and estimate of cost. Second term, 4 hours a week consisting of 2 recitations and 2 drawing-room exercises of 3 hours each. Professors Constant and Beggs.

Civil Engineering 405. Water Power. Collection, control and use of water for power purposes; selection of water wheels; laboratory measurements of the flow of water.

First term, 4 hours a week. Professor Smith. (In 1916-1917 this course will not be given in the first term, but will be required, without laboratory, of all C.E. seniors, second term, 3 hours a week.)

Civil Engineering 406. Water Supply. Collection, purification and distribution of public water supplies. Optional for C.E. seniors, second term, 2 hours a week. Professor Smith.

Civil Engineering 407. Sewerage. Design of sewers; methods of treatment and disposal of sewage. Optional for C.E. seniors, first term, 2 hours a week. Professor Smith.

Civil Engineering 409. Concrete Constructions. Design of reinforced concrete structures such as foundations, bridges, viaducts, dams, retaining walls, towers and buildings. Optional, first term, 2 credits a week of 3 hours each. Professor Constant.

English 411, 412. Theme writing and public speaking. Technical reference reading, written and oral presentation of reports upon engineering projects, argumentation, oral discussion of current topics. Both terms, 2 hours a week. Mr. Stone.

Geodesy 401. Railway Economics. Wellington: *Railway Location. Proceedings of the A. R. E. Association* and other reference reading. Optional, first term, 2 hours a week. Professor Harris and Mr. Campbell.

Civil Engineering 410. Gas Engines. Thermo-dynamics of gas engines; gas engine cycles, fuels, ignition, carburetion, governors, cooling; various types of gasoline, gas and oil engines, gas engine design. Streeter: *Internal Combustion Engines*. Optional, second term, 2 hours a week. Mr. Condit.

GENERAL REGULATIONS

TERMS AND VACATIONS

The Annual Commencement takes place on the Tuesday preceding the last Wednesday but one in June. The University opens on the Tuesday thirty-eight weeks preceding the date of the Annual Commencement.

The academic year is divided into two terms of eighteen weeks each. The first term of the next academic year (1917-1918) will begin on Tuesday, the 25th of September, 1917, and end on Tuesday, the 12th of February, 1918. The second term will begin on Wednesday, the 13th of February, 1918, and end on Tuesday, the 18th of June, 1918, the day of the Annual Commencement.

The Christmas vacation in 1917-1918 will extend from December 18, 1.30 p. m., to January 2, 10.30 a. m.; and the Easter Recess from March 27, 1.30 p. m., to April 2, 10.30 a. m. Also, there are no class exercises on Thanksgiving Day and Washington's Birthday. There is no summer session.

The Baccalaureate address to the graduating class is delivered on Sunday of Commencement week.

The Class Day exercises of the graduating class and the annual meetings of the Literary Societies are held on Monday of Commencement week. The alumni trustee election and the annual alumni luncheon are held on Commencement Day.

REGULATIONS CONCERNING REGISTRATION AND THE CHOICE OF ELECTIVES

RULES FOR REGISTRATION

At the beginning of the academic year each undergraduate student shall report in person at the Registrar's Office before

3 p. m. on the Tuesday on which the University opens, and register his full name, home address, and Princeton address.

In every case of neglect or delay in registration three absences will be recorded against the student for each day that the registration is delayed. Serious cases will be punished by putting the student on probation, by suspension, or otherwise, as the Faculty may determine.

Any absence from a class exercise incurred in the three days before or after a vacation or recess shall count as equivalent to two absences incurred at any other time.

CHOICE OF ELECTIVES

It is very desirable to obtain from each student his choice of electives as early as possible, so that the rolls of the elective classes may be made out before the opening of the term. The students are therefore requested to report to the Registrar their choice of electives for the first term of the next academic year [1917-1918] on or before the 22nd of May. Changes which the student desires to make in his choice may be made by letter to the Registrar in the summer vacation. No changes will be allowed after the beginning of the academic year.

The choice of electives for the second term of the current academic year must be reported to the Registrar on or before the 29th of January. No changes will be allowed after the 12th of February.

The penalty for delay in reporting the full list of electives for the term shall be the record of one absence each day for each elective not reported until the list is complete; this delay to be reckoned from the registration at the beginning of the academic year or from the 29th of January. Serious cases shall be punished more severely as the Faculty may determine. If the student enter any elective class

after exercises with that class have been held, he shall be reported by the instructor as absent from those exercises.

REGULATIONS CONCERNING ATTENDANCE

1. The Dean of the College has charge of all matters pertaining to attendance on chapel and class exercises. Office hours from 2 to 3 p. m. daily except Saturday, in Nassau Hall.

2. Every undergraduate student in residence at the University is required to attend at least one-half of the Sunday Chapel services each quarter, unless excused by the President or the Dean of the College. Failure to comply with this rule will render him liable to suspension.

3. In case of persistent neglect to attend Sunday Chapel services the Dean of the College has authority to compel attendance at specified times and under specified conditions, under penalty of suspension.

4. Juniors who in their sophomore year maintain a general standing of first or second group, seniors who in their junior year maintain a general standing of first or second group, and juniors and seniors who are regularly admitted to candidacy for final special honors, are excused from compulsory attendance upon class exercises so long as they maintain a general standing of first or second group, or remain eligible for final special honors.

5. Every other undergraduate student is required to attend the scheduled exercises of his class. A student who for any cause incurs 40 absences in any term or in any two successive terms, must take an extra course of three hours a week in the next term. All absences above 40 will be counted toward an additional extra course. In case of an unavoidable absence for a prolonged period, the application of this rule may be modified by the Faculty upon recommendation of the Dean of the College.

6. If any senior becomes liable for an extra course through absences incurred in the second term, the awarding of his degree shall be deferred until after Commencement. Exemption from the application of this rule may be granted by the Faculty upon the recommendation of the Dean of the College.

7. Flagrant cases of absence will necessitate immediate withdrawal from the University.

MODE OF CONDUCTING EXAMINATIONS

All written examinations and written recitations are conducted under the honor system. A student is not watched during an examination by any officer of the University, but he is required to write on his paper a pledge that he has not been guilty of any dishonesty or irregularity in connection with the examination.

The administration of the honor system is in the hands of a student committee by whose rules it is the recognized duty of every student to report to the committee any evidence of dishonesty in examination that may come under his observation. If after investigation of such evidence the committee finds a student guilty of dishonesty, it reports his case to the Faculty with a recommendation that he be finally dismissed from the University.

REGULATIONS RESPECTING CONDITIONS AND ABSENCE FROM EXAMINATIONS

I. *Conditions*

At the end of each term reports are made to the Registrar of the standing of every student in the courses which he has taken. If the student's work in a course is above the passing grade he is reported in one of the five groups described on p. 175. If his work is not above the passing grade he is reported as conditioned in the course.

A student is conditioned in a course:

(1) If he fails to satisfy the requirements of the course. In determining his failure the work of the term as well as the examination is taken into account.

(2) If he is excluded from the examination by a Department on recommendation of a preceptor, because his work done in the term with the preceptor has been unsatisfactory.

(3) If he is excluded from the examination by a Department on recommendation of a laboratory instructor, because his work done in the term with the laboratory instructor has been unsatisfactory.

(4) If he is absent from the examination, for any cause, provided his term grade in the course is below the passing grade.

(5) If he is absent from the examination, for any cause, except illness or some equally compelling reason, even if his term grade in the course is above the passing grade. In cases of justifiable absence the examination may be postponed, provided his term grade in the course is above the passing grade, if the necessary absence occurs (1) at the time of the examination; (2) or immediately preceding it; (3) or has extended over a considerable portion of the term. Whenever practicable, permission to postpone an examination must be obtained in advance from the Dean of the Faculty or the Registrar. Such a postponed examination must be taken at the time set for the removal of conditions by examination. The results of this examination are to be combined with the record of the term's work to determine whether or not the student has satisfied the requirements of the course. If the requirements of the course are not satisfied, the student is conditioned in the course as if he had taken the regular examination.

Note.—In case of absence covering more than half a term, the term will not be counted toward fulfilling the require-

ments for graduation. In case of protracted absence covering less than half a term the student's schedule for the term will generally be reduced, and he will not be allowed to take examinations in all his courses.

II. *Removal of Conditions*

A. Conditions are of two classes:

(1) Class F (Failure in the course), in which the failure is such that the condition may be removed by examination.

(2) Class R (Repeating of the course), in which the failure is so serious that the condition may not be removed by examination. Such a condition will be imposed when a student whose work during the term has been below the passing grade fails in the final examination, but no student whose work during the term has been above the passing grade shall be given a Class R condition because of failure in the final examination.

Note.—A condition incurred by exclusion from the examination is of the R Class. A condition incurred by absence from the examination is of the F Class, if the term grade is above the passing grade. If the term grade is below the passing grade, the instructor in charge of the course shall report whether the condition is of the F Class or of the R Class.

B. (1) Examinations for the removal of conditions of the F Class will be held for all students in September in the two weeks beginning on the third Monday before the opening of the academic year. Conditions which are not removed at this time are transferred to the R Class.

Examinations for the removal of conditions of the F Class incurred by seniors in either term of senior year will be held in the senior vacation.

(2) A condition of the R Class may be removed only by taking again and satisfactorily completing the course in

which the condition was incurred or by taking and satisfactorily completing a course which is a lawful substitute for the one in which the condition was incurred. If a substitute is desired, permission to take it must be obtained from the Registrar before the opening of the term.

a. There is no lawful substitute for a required course. The course in which the failure occurred must be taken again.

b. Any one course in a group of which one or more courses must be chosen is a lawful substitute for any other course of that group.

c. Any free elective is a lawful substitute for a free elective.

C. A student who, after the close of the September examinations, has any conditions remaining against him or is obliged to take an extra course because of absences or an entrance condition, shall at once proceed to remove the conditions or meet the obligation of the extra course by taking the requisite number of courses. His schedule of courses must be approved at the opening of the year by the Registrar. The courses taken for this purpose will displace an equal number of advanced courses, so that his schedule shall contain the same number of courses as that in the regular schedule of his class.

III. *Failure Resulting in Loss of Membership in the University*

(1) A student who has conditions at the end of a term covering half the work of that term, is dropped from the University.

(2) A student of any of the three upper classes who in the two terms of an academic year has incurred conditions of the R Class covering nine hours or more, or who, by failure to remove conditions of the F Class in September

has at that time conditions of the R Class amounting to nine hours or more, is dropped from the University.

(3) A member of the freshman class who in the two terms of an academic year has incurred conditions of the R Class amounting to twelve hours or more, or who, by failure to remove conditions of the F Class in September, has at that time conditions of the R Class amounting to twelve hours or more, is dropped from the University.

(4) A student of the Department of Civil Engineering who at the end of the academic year has a condition of the R Class in a mathematical or technical subject, or who, by failure to remove a condition of the F Class in September, has at that time a condition of the R Class in a mathematical or technical subject, is dropped from the University.

(5) A student whose deficiencies, resulting from the displacement of regular courses by courses which have been taken to remove conditions of the R Class, or by courses taken because of absences or an entrance condition, amount to five or more courses, is dropped from the University.

IV. *Terms of Readmission*

A student who has been dropped from the University for failure in his studies and who wishes to re-enter must make application to do so through the Registrar. If his application is granted, and he re-enters the University, he will be on trial for one term, this trial to be terminable at any time by the Faculty if his record is unsatisfactory.

(1) A student of the Department of Civil Engineering dropped at the end of the first term is required to leave Princeton for at least a term. After a term's absence, if his application for readmission is granted, he may be admitted to the next lower class at the beginning of the academic year.

(2) A student of any other department dropped at the end

of the first term is required to leave Princeton for at least a term. After a term's absence, if his application for re-admission is granted, he may be admitted:

(a) to the next lower class at the beginning of the academic year.

(b) or as a qualifying student, with an arrangement of studies which will make it possible for him to meet the requirements for graduation at some time after the graduation of his class.

(3) A student of the Department of Civil Engineering dropped at the end of the second term, may apply for admission to the next lower class. If his application is granted he may enter the next lower class at the beginning of the next academic year, or, with the permission of the Committee on Examinations and Standing, he may leave Princeton for a term, and enter the next lower class at the beginning of the second term of the next academic year.

(4) (a) A student of any other Department dropped at the end of the second term may apply for admission to the next lower class. If his application is granted he may enter the next lower class at the beginning of the next academic year.

(b) If he wishes to continue his studies as a qualifying student, he is required to leave Princeton for at least a term. After a term's absence, if his application for readmission is granted, he may be admitted as a qualifying student, with an arrangement of studies which will make is possible for him to meet the requirements for graduation at some time after the graduation of his class.

V. General Regulations Concerning Conditioned and Readmitted Students

(1) A student who is under conditions is not allowed to take in any term a larger number of courses than that con-

stituting the regular work of the term. Courses taken to remove conditions of the R Class or because of absences or an entrance condition become a part of the regular schedule, and displace more advanced courses which might otherwise be taken. An equivalent number of courses to those thus displaced must be taken in some later term.

(2) A student who at the beginning of a term is not under conditions, but who has been obliged in previous terms, for whatever reasons, to omit one or more courses, so that he is not in full standing with his class, may apply to the Registrar for permission to take a larger number of courses than that constituting the regular work of the term. If the application is granted, he may take one extra course, and not more than one, in each succeeding term, unless in any term he receives a condition. In case he receives a condition, the privilege of taking an extra course is revoked.

(3) A senior whose average standing in the preceding term is in a group higher than the fifth, may apply for permission to take an extra course, even though he has conditions.

(4) No student who requires fewer than five courses for graduation shall be permitted to take fewer than four courses in his last term. He shall be held responsible for the completion of all the courses which he takes in that term.

(5) A student whose deficiencies, resulting from the displacement of regular courses by those which have been taken to remove conditions of the R Class, or by those taken for absences or an extra condition, amount to three or more courses, shall be ranked as a candidate for graduation one term later than the class of which he was a member.

VI. *Removal of Entrance Conditions*

(1) Opportunities for the removal of entrance conditions by examination are given only at the regular entrance examinations in June and September.

(2) No student under entrance conditions will be admitted to the sophomore class, except by express permission of the Committee on Examinations and Standing. If this permission is granted, the student will be required to take for the removal of the entrance condition a course in the subject in which his condition lies. The course so taken will displace one of the student's regular courses. See II C and V (1).

VII.

A fee of \$3 is charged for each examination taken for the removal of a condition; also for the examination in a course which has been repeated or which has been taken for the removal of a condition.

VIII. *Administration of the Rules*

The administration of the rules concerning conditions, and all other rules which concern the standing of a student in his class, or the standards of scholarship in general, is in charge of the Committee on Examinations and Standing. The Dean of the Faculty is Chairman of this Committee, and the Registrar is Secretary. Matters to be brought before the Committee should ordinarily be presented to the Registrar in writing, or may be presented in person at a meeting of the Committee.

The Committee on Examinations and Standing will apply the above rules with reference to all work from the beginning of the first term of the academic year 1916-1917.

One year will be allowed for the removal of all conditions incurred prior to that time, but beginning with the academic year 1917-1918 conditions incurred before the academic year 1916-1917 will be treated exactly in the same manner as conditions incurred during the academic year 1916-1917.

FRESHMAN TESTS

(1) At three set times in each term general uniform tests will be held in all the subjects of freshman year, and upon a combination of the marks obtained in these tests and in the recitations, a report of the standing of each student shall be handed in to the Registrar's office within five days from the date of the test.

(2) The deficiencies reported shall be investigated in personal interviews with the students for the purpose of finding out the nature and cause of such deficiencies.

(3) A student who is deficient in eight or more hours shall be put on probation and shall be debarred from participation in all extra-curriculum activities.

(4) A student who flagrantly and persistently neglects his work shall be compelled to withdraw from the University, and shall be subject to the rules governing students dropped at the end of the term.

STANDING

The results of the term examinations are combined with those of the work done during the term to decide the relative standing or rank of the student.

The rank in each course is determined by the instructor, who computes from the term work and examinations the marks of the class; those who have satisfied the requirements of the course are classified in five groups in the order of merit.

The first group indicates very high standing and contains not more than ten per cent of the entire class.

The second group indicates high standing and contains not more than twenty per cent of the entire class.

The third group indicates medium standing and contains not more than thirty-five per cent of the entire class.

The fourth group indicates low standing and contains not more than twenty-five per cent of the entire class.

The fifth group contains the remainder; it indicates very low standing.

The general rank of a student is determined by combining his group numbers in the several courses in proportion to the allotted schedule time of each. The students whose averages are highest and above an established limit are assigned to the first general group; those next highest to the second general group, and so on through the general groups.

A report of the standing of each student is made to his parent or guardian by the Registrar at the close of the first term and at the close of the year. The latter report gives also the standing for the whole year.

DEGREES

A student who passes his final examinations is ordinarily recommended by the Faculty for the degree appropriate to his course, and if the recommendation is approved by the Trustees, the degree is conferred at Commencement and the diploma of the University is given.

FINAL RANK

The final rank of members of the graduating class is computed by combining the averages for the several years of the course, except that the average for the freshman year is omitted in those cases in which it would lower the standing of the student. Special Honors in particular departments are awarded. (See page 67.)

COMMENCEMENT SPEAKERS

The student whose individual rank is highest is ordinarily awarded the Latin Salutatory by vote of the Faculty.

The Valedictory is awarded with special regard to the qualifications of the student as a valedictorian as well as on the ground of scholarship.

In the award of all degrees and honors, regard is had to the conduct of the student during his course, and any student who has incurred serious discipline may be debarred from the rank to which otherwise his scholarship would have entitled him.

INFIRMARY REGULATIONS

1. The Sanitary Committee shall have general control of the medical administration of the Infirmary, the care of patients, and the relations of physicians or nurses to the Infirmary or to each other, subject to the approval of the Board of Trustees.

2. The University Physician or the Assistant Physician will be in attendance at the Infirmary every day from 8.30 to 10.30 a. m., and from 5.00 to 6.00 p. m. There will be no charge for students for consultation and treatment at the Infirmary.

3. Any physician legally registered or licensed to practise medicine in the State of New Jersey will be privileged to attend patients in the Infirmary upon the approval of the Sanitary Committee. Physicians who desire to attend patients at the Infirmary will make application to the Secretary of the Sanitary Committee. This rule does not apply to physicians or surgeons called in consultation by an attending physician.

4. Assignments of patients to individual rooms at the Infirmary will be made at the discretion of the University Physician.

5. Should the number of patients at the Infirmary at any time become so large as to require the removal elsewhere of convalescents to make room for cases of serious

illness, it shall be the duty of the University Physician to determine which patients may, with safety, be removed in the emergency.

6. Only emergency cases will be operated on at the Infirmary.

7. Every patient will be required to leave the Infirmary promptly after being dismissed by his physician.

8. If special nurses are required, they will be procured at the direction of the University Physician and controlled by the Infirmarian and an extra charge made to the patient.

9. Visitors and patients will be admitted between the hours of 1.30 and 5.30 p. m. Visitors are not admitted to the contagious ward.

RELIGIOUS WORSHIP AND ACTIVITIES

The President of the University is the head of all the religious interests and directs the university preaching services which are held in Marquand Chapel each Sunday morning at 11 o'clock, the vesper services held each Sunday afternoon at 5 o'clock, and the week-day morning chapel services at 10:15 o'clock. The vesper services are usually devoted entirely to prayer and song, but twice in the year, once in the autumn and once in the spring, the sacrament of the Lord's Supper is celebrated.

During a considerable portion of the college year distinguished Christian ministers and leaders spend two Sundays and the intervening week at Princeton as Resident University Preachers, entering into the life of the college community and conducting both the Sunday and week-day chapel services while in residence. During the rest of the year the daily chapel services are conducted by members of the Faculty and others.

THE PHILADELPHIAN SOCIETY OF NASSAU HALL

The executive administration of the religious activities of the University centers in the Murray-Dodge Hall group of buildings and is organized into the Philadelphian Society—*φιλαδελφία εἰς ἀλλήλους φιλόστοργοι*—which is the Young Men's Christian Association of Princeton University. This Society was founded in 1825. The group of students who established the Student Department of the Y. M. C. A., out of which has sprung the World's Student Christian Federation, went out from Princeton in 1877, as representatives of the Philadelphian Society, and the Student Volunteer Move-

ment for Foreign Missions also was started by members of the Society who attended the first student conference at Northfield in 1888.

Murray Hall, erected in 1879 from a bequest left for the purposes of the Society by Hamilton Murray, of the class of 1872, contains an auditorium and a room for general social and business purposes. Dodge Hall, connected with Murray Hall by an ambulatory, is the gift of the late William E. Dodge, and his son, Cleveland H. Dodge, Esq., of the class of 1879, in memory of the late W. Earl Dodge of the same class. It contains a handsome reception room and office, on the first floor; four rooms for the classes, which have been equipped as centers for Social Service, Missions, Bible Study, and Worship; a visitor's room for the Resident Preacher; a suite of rooms for the Associate Secretary; a bed-room for the Resident Preacher; dormitory rooms for visiting speakers, and a room for the student superintendent. This building has recently been splendidly equipped and re-furnished. The privileges of the building are extended to all students of the University, irrespective of their relations to the Philadelphian Society.

The Society coöperates with the President of the University in directing the chapel services; holds devotional meetings on Sunday mornings; offers courses in Bible Study, Christian Service, and Foreign Missions; conducts class discussions on Sunday evenings, and promotes service of all kinds on the part of the students in the town of Princeton, in the rural districts, in Trenton, Philadelphia, and New York.

The Princeton Summer Camp, located on the Metedeconk River, near Bay Head, New Jersey, is carried on by the Society throughout the summer months, when poor boys from New York, Philadelphia, and Princeton are kept in camp by the students of the University, who act as counselors.

A very extensive department of the work of the Society is conducted in Peking, China, under the name of the "Princeton Center in Peking." This work is really the Chinese Y. M. C. A. of the capital city of the Republic and is directed by R. R. Gailey '96, Dwight W. Edwards '04, J. S. Burgess '05, A. M. Hoagland '06, D. W. Carruthers '15, C. L. Heyniger '16, E. B. Wall '16, S. L. Seymour '16, and Lennig Sweet '16.

The members of the Board of Directors of the Philadelphia Society are: President John Grier Hibben '82, *Ex-Officio*, Rev. John McDowell, D.D., '94, Chairman; Charles W. McAlpin '88, Treasurer; Rev. J. Ross Stevenson, D.D., Rt. Rev. Paul Matthews, D.D., '87, Robert E. Speer '89, T. H. P. Sailer '89, Edward L. Howe '91, Assistant Treasurer, James E. Bathgate, Jr., '94, Robert Garrett '97, Lucius H. Miller '97, Ralph W. Harbison '98, Raymond B. Fosdick '05, Norman M. Thomas '05, and T. Newell Pfeiffer '08. The appointed staff of the Society are Thomas St. Clair Evans '97, General Secretary; Samuel M. Shoemaker, Jr., '16, Associate Secretary; Rev. O. F. Gardner '01, Presbyterian Representative; Rev. Ralph B. Pomeroy, Episcopal Representative; J. Stewart Burgess '05, Foreign Mission Secretary.

THE ST. PAUL SOCIETY

The St. Paul Society is composed of students who are connected with the Episcopal Church and is affiliated as the Episcopal Department of the Philadelphian Society. Its work includes the maintaining of Sunday services in a number of small communities near Princeton, assisting in the work of the local parish and seeking to strengthen and deepen the religious life of the Episcopalian students by providing special opportunities for services and celebrations of the Holy Communion. It also endeavors to interest

Episcopalians in the general religious life of the University as offering them an opportunity to evidence the existence of the spirit of devotion which the society seeks to stimulate.

There are no formal terms of admission and no dues. Any undergraduate who claims connection with the Episcopal Church is welcome at any meeting or service. A reception to entering students is given early in the fall where an opportunity is furnished to learn in more detail the purpose and work of the Society.

PUBLIC LECTURES

TRASK LECTURES

The income from \$10,000, presented by the late Spencer Trask, of the class of 1866, is available to secure the services of eminent men to deliver public lectures before the University on subjects of special interest. For the year 1916-1917 the Trask Lectures will be a series on various phases of American City Administration, by the Hon. John Purroy Mitchel, Mayor of New York, the Hon. Arthur Woods, Police Commissioner of New York, the Hon. Milo R. Maltbie, Ph.D., City Chamberlain of New York, and Dr. Haven Emerson, Commissioner of Health of New York. The lectures will be published in separate volumes by the Princeton University Press.

STAFFORD LITTLE LECTURESHIP ON PUBLIC AFFAIRS

Founded in 1899 with a gift of \$10,000 by the late Henry Stafford Little, of the Class of 1844. At the suggestion of the donor, the Hon. Grover Cleveland, ex-President of the United States, was invited to deliver before the students of the University "such lectures as he might be disposed to give from year to year," and until his death in 1908 Mr. Cleveland was the Stafford Little Lecturer. Since that time it has been customary to have a different lecturer each year. The Stafford Little Lectures have all been published by the Princeton University Press.

THE LOUIS CLARK VANUXEM FOUNDATION OF
PRINCETON UNIVERSITY

A bequest of \$25,000 under the will of Louis Clark Vanuxem, of the class of 1879. By direction of the executors, the income of this foundation is to be used for a series

of from four to six public lectures before the University annually, at least one half of which shall be on subjects of current scientific interest. The lectures are to be printed and distributed among schools and libraries generally. They are published annually by the Princeton University Press. The lecturer for the academic year 1915-16 was Thomas Hunt Morgan, Ph.D., LL.D., Professor of Experimental Zoölogy in Columbia University. For 1916-17 the lecturer is President Charles Richard Van Hise, Ph.D., LL.D., of the University of Wisconsin.

UNIVERSITY LECTURES ON CHRISTIANITY

In June, 1914, the Board of Trustees established an annual course of university lectures on the Nature of Christianity or on the History and Literature of the Bible, to be given each year by a scholar of recognized ability and learning. The lecturer for 1916-17 is President Robert A. Falconer, Litt.D., D.D., LL.D., of the University of Toronto.

THE ALBERT PLAUT CHEMICAL CLUB FUND

Established in 1912 with a gift of \$5,000 by Mr. Albert Plaut, of New York. The income is to be used for the benefit of the Chemical Club, and primarily for providing lectures before the club by men of distinction in the field of industrial chemistry or a related science.

EXPENSES

*Board, 36 weeks	\$6.50 to \$8.00 per week
Washing, 36 weeks	75 cents per week
†Tuition and Public Room fee	\$200.00 per annum
Library fee	\$5.00 per annum
‡Laboratory fee, extra for chemical courses involving laboratory work.....	\$7.50 to \$18.00 per term
Laboratory fee, extra for the courses	
Physics 101, 102; Physics 201, 202.....	\$5.00 per annum
Apparatus deposits (see below)	
Room rent in dormitories (according to location of room)	\$23.00 to \$250.00 per annum
Heat, fixed charge (according to lo- cation of room)	\$10.00 to \$28.00 per annum
Light, fixed charge (according to location of room)	\$12.00 to \$28.00 per annum
Infirmery fee	\$7.00 per annum
Department of Physical Education fee.....	\$10.00 per annum
Matriculation fee, payable upon matriculation.....	\$5.00
Graduation fee, payable second term, senior year	\$12.00

Apparatus Deposits.—Students pursuing laboratory courses are required to make deposits to pay for apparatus injured or destroyed. At the end of the term any excess in favor of the student is placed to his credit on the bill for the next term. The deposits in the courses are: General

*Freshmen and sophomores are required to board at the University Dining Halls. The rate of board for the year 1917-1918 will be \$6.50 per week, but students who are unable to pay the full price are given an opportunity to secure employment as waiters at the Dining Halls and thereby earn all or a part of the price of board.

† Remission of Tuition is granted under certain conditions, to students needing assistance. For full information regarding Remission of Tuition, see page 213.

‡ Use of Chemical Laboratory, one afternoon a week, \$7.50 per term; two afternoons a week, \$13.00 per term; three afternoons a week, \$18.00 per term.

Physics—\$5; Chemistry—\$10 to \$15 for each course (two terms). In Geodesy—freshmen, second term, \$10; sophomores, second term, \$15; juniors, both terms, \$10; seniors, first term, \$5.

Students taking any of the courses in graphics will require a drafting outfit costing from \$18 to \$25.

ESTIMATE OF ANNUAL EXPENSES

UNDERGRADUATE

Average minimum, medium, and maximum estimates of the necessary expenses for one year of a student occupying an unfurnished room in a dormitory have been prepared as follows:

	<i>Min.</i>	<i>Med.</i>	<i>Max.</i>
*Board, 36 weeks at \$6.50 to \$8.00.....	\$234.00	\$234.00	\$288.00
Washing, 36 weeks, at 75 cents per week	27.00	27.00	27.00
†Tuition and Public Room fee	200.00	200.00	200.00
Library fee	5.00	5.00	5.00
Infirmary fee	7.00	7.00	7.00
Department of Physical Education fee..	10.00	10.00	10.00
Room rent	30.00	100.00	200.00
Heat (per room)	10.00	19.00	28.00
Light (per room)	12.00	20.00	28.00
Matriculation fee (entering students)...	5.00	5.00	5.00
Graduation fee (seniors)	12.00	12.00	12.00

Laboratory fees for courses in chemistry and physics, apparatus deposits, books, Hall dues, clothes, furnishings for rooms, incidentals, and traveling and vacation expenses have not been included in these estimates.

*Freshmen and sophomores are required to board at the University Dining Halls. The rate of board for the year 1917-1918 will be \$6.50 per week, but students who are unable to pay the full price are given an opportunity to secure employment as waiters at the Dining Halls and thereby to earn all or a part of the price of board.

† Remission of Tuition is granted, under certain conditions, to students needing assistance. For full information regarding Remission of Tuition, see page 213.

RULES GOVERNING THE ALLOTMENT AND RENTAL OF ROOMS

I. Rooms will be assigned *members of the University* for occupation during the following academic year between the 15th of May and the 1st of June of each year.

II. This assignment will embrace:

(a) All rooms occupied by students whose connection with the University will terminate at the end of the academic year.

(b) The rooms of all seniors, whether with room-mate or not (unless the room may be retained by a graduate or for a brother, as elsewhere provided in the rules).

(c) All rooms for which the lease has not been properly renewed.

III. An allotment may also take place at the close of the first term of each academic year for the purpose of assigning such rooms as may then fall vacant.

IV. (a) The assignment of rooms will in all cases not herein specially excepted take place in such a manner that specific rooms shall be assigned by lot.

(b) The rooms to be assigned are classified according to the amount of their rental, without heat and light, in eight groups as listed on pages 193 to 197. The rental in all cases includes the necessary painting, papering, etc.

(c) The applicants for rooms will be divided into corresponding groups, each applicant being required to inform the Treasurer in writing before the 10th of May, or the 20th of January, as the case may be, both of his intention to enter the drawing and of the group in which he wishes to be placed.

Every applicant for a room shall agree beforehand, and shall be required, to take the room which may be assigned to him by lot in the group in which he has made application.

(d) Each drawing will begin with the first group and proceed from that group successively through the several higher groups. Any applicant who does not obtain a room in the group to which he first asked to be assigned may be allowed to draw in the next higher group.

(e) If there be any rooms remaining unassigned after a drawing, such rooms may be assigned by subsequent allotment at such time before the end of the year or of the term as the Treasurer may appoint; such supplementary allotment to be made under the same rule as the principal allotment, with this exception, that the rooms disposed of by means of it may be classified in the same way or not, at the discretion of the Treasurer.

(f) a. Priority in the drawing will be determined by the length of time the applicants have been members of the University. The first drawing will include the names of all applicants who have been members of the University for more than one year. A second drawing will include the names of all applicants who have been members of the University one year or less.

b. If the application for a double room is signed by students who have been members of the University different lengths of time, it will be classified and placed in the drawing in which the student who has been a member of the University the shortest length of time would be placed.

(g) a. On or before the 5th day of May there will be drawn by lot from all single and double rooms available for occupancy in the fall, accommodations for *150 entering freshmen*, equitably distributed among the several groups according to rental.

b. The Registrar of the University will send to all candidates for admission to the *freshman class*, who have been *admitted at the June examinations*, a statement of the location and number of rooms reserved throughout the dor-

mitories for the use of freshmen, together with the rental to be charged in each case, and a statement of the owner's valuation of the furniture which may have been left in any of the rooms. The student to whom a room may be allotted is under no obligation to purchase furniture which may have been allowed to remain in the rooms as the property of the former occupant. Accompanying this statement will be a form of application blank which may be filed with the Treasurer at any time prior to July 23, upon which the entering student may indicate in what group he desires to draw for a room and whether, in the event of his failure to draw a room in the group first chosen, he is willing to enter his application in the next higher group.

(h) Double rooms are separately classified and allotted in accordance with the above regulations. Only such suites as consist of a study and two bedrooms are considered double rooms within the meaning of this clause. No double room can be assigned to a single individual, nor is it within the privilege of any single individual to draw for a double room. Every application for a double room must contain the names of two persons who intend to occupy the room together and who undertake to be jointly responsible for the rent of the same.

(i) Whenever for any reason one of the occupants of a double room is permitted or obliged to cancel his room lease, the remaining occupant must vacate the room at the end of the current academic term, unless he agrees to pay the whole rent, or provide a room-mate who shall join him in signing a new lease for the remainder of the academic year.

V. (a) The tenure and liabilities of those to whom rooms are assigned under these rules shall be the tenure and liabilities expressed in the following lease, which must be signed in the case of each room allotted by the student who

is to occupy it, and by his parent or guardian. This lease must be signed and delivered to the Treasurer in each case within ten days of the allotment, except in the case of new students, provided for under Rule 4g.

"This agreement, made the day of 191 , between the Trustees of Princeton University and of witnesseth, that the said Trustees of Princeton University do hereby lease unto the said Room No. in the Entry of , to hold for the academic year of , paying therefor during the said term unto said Trustees of Princeton University the yearly rent of \$ in two equal payments to be made the one within the first four weeks of the first term of the academic year, the other within the first four weeks of the second term of the academic year.

"And the said covenants to pay the said rent in the manner and at the times aforesaid, and to deliver up the said premises to the said Trustees of Princeton University or its legal representative at the end of said term in as good condition as the same are or may be put into by the said Trustees of Princeton University, reasonable use and wear and tear thereof, and fire and other casualty excepted. The said lessee also covenants that he will not do or suffer to be done any damage in the leased premises, and that, if any damage beyond reasonable wear and tear be done, he will cause the same to be made good as soon as possible at his own expense, employing for that purpose the proper University workmen, and paying the costs thereof at once to the University Treasurer, it being understood that the damage here meant includes the breakage of glass and locks, whether by accident or design. The said lessee further covenants that he will not sublet the same or any part thereof, nor permit any other person or persons to occupy the same or any part thereof, nor make nor suffer to be made any alteration therein without the consent of the said Trustees of Princeton University for that purpose in writing first had and obtained. And the said lessee further covenants that the said Trustees of Princeton University through their authorized representatives may enter the said premises for the purpose of viewing or making improvements therein at any reasonable times in the daytime, or at any other time for the legitimate purposes of University discipline. This lease is made on the express condition that it may be terminated by said Trustees through their representative."

(b) Any occupant of a college room may retain his room until the end of his undergraduate or graduate course, provided he annually notify the Treasurer of his intention of retaining it and sign a new lease before the 1st of May; otherwise his room will be considered vacant and will be included in the next allotment. In case an occupant of a double room be left without a roommate at the end of the academic year, he may renew his lease upon condition of naming another student of the University who will become joint lessee with him for the following year, unless the roommate who leaves is a senior or a fourth-year special. It will also be the privilege of any occupant of a college room to renew his lease at the end of his own tenure in the name of his brother, when that brother is to enter the University immediately.

(c) The right to occupy a room is not transferable and terminates with the expiration of the lease. Any attempt on the part of the occupant of a college room to sell or transfer, directly or indirectly, his right of occupancy will be deemed a fraudulent transaction. The penalty for violating this rule will be forfeiture of the room by the new lessee.

(d) The occupant of a college room shall deposit with the Secretary of Business Administration the sum of 25 cents for each key to his room that may be furnished him by the University; and all amounts paid under this clause will be refunded upon return of the key or keys furnished.

VI. (a) The seller and buyer of furniture in rooms allotted to students now in college will be required to file in the office of the Secretary of Business Administration, on or before June 15, a statement signed by each of the students concerned and by their parents or guardians, to the effect that they have agreed upon a mutually satisfactory price for such of the furniture as the buyer is willing to purchase.

In the absence of such an agreement being filed on or before June 15, the owner of the furniture will be notified to remove it immediately. If this notice is not complied with, the furniture will be sold by the University authorities.

(*b*) If any of the rooms drawn and held in reserve for the next incoming freshman class contain furniture, the owner of the furniture will be informed that it must be removed not later than the day in September when the dormitories are opened for occupancy; unless the freshman to whom it is allotted shall elect to purchase it at the price fixed by the owner.

VII. No exchange of rooms will be allowed unless formally sanctioned in writing by the Treasurer; and then only upon terms explicitly stated in a written application signed by both parties to the proposed exchange, and not in contravention of the spirit of these rules. Such application will be kept on file in the Treasurer's office.

VIII. When rooms are vacated during a term, the rent must be paid until the end of the term. An occupant of a college room who expects to be absent on leave for a term may be released from the obligations of his lease, provided he notify the Treasurer before the beginning of the term during which he expects to be absent, and give up the room; but no abatement or drawback of room rent will be allowed for any period less than a term, except in special cases to be stated in writing, and by permission of the Treasurer.

The Faculty of the University is directed to suspend or expel every student that may be found guilty of breaking or evading these rules or of injuring or interfering with the person or property of his successor in a room; or of aiding or abetting another in such transgression, evasion, injury, or interference. The Faculty and all its officers are instructed to take the utmost pains, by ordinary or extraordinary means, to discover such offenders and prevent such offenses.

The Faculty is further instructed to report, with the evidence discovered, the names of any graduate or outsider that may be guilty of such offenses to the Committee on Grounds and Buildings; and said committee is authorized and directed to procure legal counsel and when the evidence seems to justify it to take appropriate legal proceedings against any and every offender before a court of law.

LIST OF DORMITORY ROOMS

FIRST GROUP (\$20.00-\$42.00 a year)

44 SINGLE ROOMS

- \$20.00 (1) *Hamilton*: 1 A.
 23.00 (4) *Reunion*: 16 S M; 17 S M; 18 S M; 19 S M.
 31.00 (5) *Dod*: 12 N; 12 S. *Edwards*: 2 N; 5 N; 10 S.
 35.00 (1) *Dod*: 7 M.
 37.00 (10) *Edwards*: 7 N; 8 N; 32 N; 35 N; 7 S; 8 S; 37 S;
 40 S; 41 S; 42 S.
 40.00 (1) *West*: 9 S.
 41.00 (2) *Hamilton*: 306; 307.
 42.00 (20) *Edwards*: 1 N; 9 N; 10 N; 12 N; 15 N; 22 N; 25 N;
 37 N; 38 N; 39 N; 40 N; 2 S; 5 S; 9 S; 17 S; 20 S;
 27 S; 30 S; 38 S; 39 S.

SECOND GROUP (\$47.00-\$75.00 a year)

89 SINGLE ROOMS

- 47.00 (19) *Reunion*: 1 N M; 2 N M; 3 N M; 1 S M; 2 S M;
 3 S M. *Edwards*: 18 N; 19 N; 28 N; 29 N; 41 N;
 42 N; 1 S; 18 S; 19 S; 28 S; 29 S; 32 S; 35 S.
 50.00 (2) *Brown*: "A", E; "B", W.
 53.00 (14) *Reunion*: 13 N M; 14 N M; 15 N M; 13 S M;
 14 S M; 15 S M; *Edwards*: 17 N; 20 N; 27 N;
 30 N; 12 S; 15 S; 22 S; 25 S.
 55.00 (1) *West*: 10 N.
 57.00 (13) *Hamilton*: 2 A; *Edwards*: 11 N; 16 N; 21 N;
 26 N; 31 N; 36 N; 11 S; 16 S; 21 S; 26 S; 31 S; 36 S;
 60.00 (4) *Brown*: "C", E; "E", E; "D", W; "F", W.
 65.00 (1) *Witherspoon*: 17 E.

- 69.00 (18) *Reunion*: 4 N M; 5 N M; 6 N M; 7 N M; 8 N M; 9 N M; 10 N M; 11 N M; 12 N M; 4 S M; 5 S M; 6 S M; 7 S M; 8 S M; 9 S M; 10 S M; 11 S M; 12 S M.
- 70.00 (6) *Witherspoon*: 17 W. *Edwards*: 3 N; 4 N; *Cuyler*: 461; *Hamilton*: 1 D; 1 E.
- 75.00 (11) *Dod*: 21 M; 22 M; 24 M; 25 M; 27 M; 13 N; 13 S. *Edwards*: 33 N; 34 N; 3 S; 4 S.

THIRD GROUP (\$79.00-\$115.00 a year)

124 SINGLE ROOMS

- \$79.00 (4) *West*: 17 N; 20 N; 18 S; 19 S.
- 80.00 (25) *Edwards*: 13 N; 14 N; 23 N; 24 N; 33 N; 34 N. *Dod*: 1 M; 3 M; 4 M; 6 M; 1 N; 1 S. *Brown*: 1 E; 10 E; 1 W; 10 W; 1 S E; 10 S E; 1 S W; 10 S W. *Witherspoon*: 18 E; 19 E; 18 W; 19 W. *Upper Pyne*: 14.
- 85.00 (14) *Edwards*: 13 S; 14 S; 23 S; 24 S. *Blair*: 61. *Witherspoon*: 1 E; 13 E; 1 W; 13 W; 8 E M; 8 W M. *Cuyler*: 413. *Hamilton*: 1 C; 2 C.
- 89.00 (4) *West*: 18 N; 19 N; 17 S; 20 S.
- 90.00 (31) *Holder*: 2 B; 105; 106. *Little*: 46. *Witherspoon*: 5 E; 9 E; 5 W; 9 W. *Dod*: 8 M; 10 M; 11 M; 13 M; 14 M; 15 M; 17 M; 18 M; 20 M; 5 N; 9 N; 5 S; 9 S. *Brown*: 4 E; 7 E; 4 W; 7 W; 4 S E; 7 S E; 4 S W; 7 S W. *Cuyler*: 442; 452.
- 100.00 (19) *Blair*: 1; 63. *West*: 5 N; 6 N; 7 N; 8 N; 9 N; 11 N; 12 N; 13 N; 14 N; 15 N; 16 N; 6 S; 7 S; 10 S; 11 S; 14 S; 15 S.
- 105.00 (5) *Little*: 18. *Witherspoon*: 2 E; 3 E; 2 W; 3 W.
- 110.00 (22) *Blair*: 93. *Holder*: 14 A. *Cuyler*: 144; 161; 244; 411; 412; 421; 431; 432; 441; 451; 462. *Little*: 15, 32; 34; 44. *West*: 5 S; 8 S; 12 S; 13 S; 16 S.

16 DOUBLE ROOMS

- \$84.00 (4) *Reunion*: 9 N; 10 N; 9 S; 10 S.
- 115.00 (12) *Reunion*: 3 N; 4 N; 5 N; 6 N; 7 N; 8 N; 3 S; 4 S; 5 S; 6 S; 7 S; 8 S.

FOURTH GROUP (\$125.00-\$160.00 a year)

34 SINGLE ROOMS

- \$125.00 (1) *Witherspoon*: 20 E.
- 130.00 (14) *Witherspoon*: 6 E; 7 E; 10 E; 11 E; 14 E; 15 E; 6 W; 7 W; 10 W; 11 W; 14 W; 15 W. *Little*: 16. *Upper Pyne*: 12.

- 135.00 (9) *Blair*: 94. *Hamilton*: 1 B; 2 B. *Cuyler*: 261; 262; 352; 362. *Patton*: 100, 109.
 140.00 (3) *Hamilton*: 304; 305. *Holder*: 1 A.
 155.00 (4) *Witherspoon*: 20 W. *Upper Pyne*: 3; 8; 13.
 160.00 (3) *Patton*: 103; 105; 107.

10 DOUBLE ROOMS

- \$130.00 (6) *Witherspoon*: 2 E M; 9 E M; 10 E M; 2 W M; 9 W M; 10 W M.
 135.00 (1) *Hamilton*: 311.
 140.00 (2) *Witherspoon*: 1 E M; 1 W M.
 160.00 (1) *Little*: 101.

FIFTH GROUP (\$165.00-\$200.00 a year)

45 SINGLE ROOMS

- \$165.00 (14) *Little*: 13; 14. *Witherspoon*: 4 E. *Blair*: 113, 114. *Campbell*: 2 A. *Cuyler*: 141; 142; 242; 301. *Patton*: 14; 15; 24; 25.
 180.00 (7) *Witherspoon*: 8 E; 12 E; 16 E; 4 W; 8 W; 12 W; 16 W.
 190.00 (5) *Little*: 62. *Blair*: 111; 112. *Cuyler*: 342. *Patton*: 101.
 195.00 (19) *Campbell*: 11; 12; 13; 14; 21; 22; 23; 24; 53; 54; 55; 56; 61; 62; 63; 64; 65; 66; 1 A.

27 DOUBLE ROOMS

- \$180.00 (4) *Campbell*: 3 A; 5 A; 6 A; 2 B.
 185.00 (6) *Witherspoon*: 5 E M; 6 E M; 7 E M; 5 W M; 6 W M; 7 W M.
 190.00 (4) *Witherspoon*: 3 E M; 4 E M; 3 W M; 4 W M.
 195.00 (4) *Blair*: 11; 31; 33; 41.
 200.00 (9) *Patton*: 34. *Brown*: 3 E; 6 E; 9 E; 12 E; 3 W; 6 W; 9 W; 12 W.

SIXTH GROUP (\$205.00-\$260.00 a year)

20 SINGLE ROOMS

- \$205.00 (4) *Upper Pyne*: 4; 9. *Lower Pyne*: 2; 8.
 215.00 (8) *Little*: 63; 124; 134; 144. *Blair*: 3; 5. *Hamilton*: 301. *Patton*: 91.
 230.00 (4) *Upper Pyne*: 5; 10. *Lower Pyne*: 4; 10.
 245.00 (4) *Little*: 151; 152; 163; 164.

110 DOUBLE ROOMS

- \$210.00 (4) *Dod*: 14 N; 15 N; 14 S; 15 S.

- 220.00 (40) *Brown*: 2 E; 5 E; 8 E; 11 E; 2 W; 5 W; 8 W; 11 W
Little: 31; 61. *Blair*: 4; 21; 23; 34; 43; 44; 51;
 52; 53; 54; 65; 71; 73; 81; 83; 91; 95; 97. *Hamilton*:
 3 A; 3 C. *Holder*: 3 A; 7 A; 3 B; 7 B; 2 D; 11; 12.
Patton: 30; 31; 32.
- 235.00 (2) *Brown*: 12 S E; 12 S W.
- 250.00 (59) *Brown*: 3 S E; 6 S E; 9 S E; 3 S W; 6 S W; 9 S W.
Dod: 2 N; 3 N; 6 N; 7 N; 10 N; 11 N; 2 S; 3 S;
 6 S; 7 S; 10 S; 11 S. *Little*: 21; 23; 35; 38; 41; 43;
 51; 53; 54. *Blair*: 13; 15; 17; 64; 72; 74; 84; 92; 98.
Campbell: 4 A. *Holder*: 4 A; 5 A; 6 A; 9 A; 10 A;
 11 A; 12 A; 13 A; 8 B; 8 C. *Patton*: 33; 35; 36;
 102. '79 *Hall*: 21; 23; 31; 33; 43; 51; 53; 61.
- 260.00 (5) *Brown*: 11 S E; 11 S W. *Dod*: 23 M; 26 M. *Lower*
Pyne: 15.

SEVENTH GROUP \$270.00-\$325.00 a year)

I SINGLE ROOM

- \$270.00 (1) *Little*: 186.

200 DOUBLE ROOMS

- \$270.00 (3) *Dod*: 16 M; 19 M. *Blair*: 6.
- 275.00 (88) *Brown*: 2 S E; 5 S E; 8 S E; 2 S W; 5 S W; 8 S W.
Dod: 2 M; 5 M; 9 M; 12 M; *Little*: 22; 24; 33;
 36; 42; 52; 121; 123; 131; 133; 141; 143; 171. *Blair*:
 12; 14; 16; 22; 24; 32; 42; 62; 82; 96; 101; 102; 103.
Hamilton: 11; 21; 309; 310; 312. *Cuyler*: 16; 143; 162;
 211; 221; 222; 231; 241; 243; 251; 311; 321; 322; 331;
 341; 343; 351. *Holder*: 8 A; 2 C; 21; 51; 113. *Pat-*
ton: 10; 11; 13; 20; 21; 22; 23; 60; 61; 62; 63; 70;
 71; 72; 73; 81; 82; 83; 84; 85; 90; 92; 94; 108. '79
Hall: 41.
- 300.00 (55) *Little*: 122; 132; 142. *Hamilton*: 12; 14; 22; 24; 308.
Campbell: 25; 26; 27; 28. *Holder*: 2 A; 22; 31; 32;
 33; 34; 41; 42; 52; 53; 54; 61; 62; 71; 72; 75;
 76; 84; 91; 93; 94; 111; 114; 121; 122; 123; 124;
 131; 132; 133; 134; 141; 142; 143. '79 *Hall*; 11;
 13; 22; 24; 34; 44; 52; 62; 63.
- 310.00 (5) *Upper Pyne*: 11. *Lower Pyne*: 1; 5; 7; 11.
- 320.00 (4) *Blair*: 7; 9. *Patton*: 12. '79 *Hall*: 32.

325.00 (45) *Little*: 64; 71; 72; 161; 172; 181; 185. *Blair*: 104; 115; 116. *Hamilton*: 3 B; 300. *Campbell*: 15; 31; 32; 33; 34; 41; 51; 52. *Cuyler*: 212; 232; 263; 312; 332; 363. *Holder*: 43; 44; 63; 64; 73; 74; 81; 82; 92; 103; 104; 112. *Patton*: 80; 93; 95; 104; 106. '79 *Hall*: 42; 54.

EIGHTH GROUP (\$350.00 a year and over)

36 DOUBLE ROOMS

\$350.00 (4) *Little*: 66; 68; 162. *Campbell*: 16.
 355.00 (5) *Campbell*: 42, 44. '79 *Hall*: 12; 14; 64.
 360.00 (6) *Upper Pyne*: 1; 2; 6; 7. *Lower Pyne*: 3; 9.
 380.00 (6) *Little*: 182; 183. *Holder*: 65; 66; 101; 102.
 405.00 (1) *Little*: 184.
 430.00 (1) *Blair*: 2 (with privilege of a third occupant).
 435.00 (1) *Little*: 153.
 440.00 (4) *Patton*: Suites 42 and 52, 43 and 53 (4 occupants in each suite).
 460.00 (1) *Little*: 154.
 490.00 (1) *Little*: 111 (3 occupants).
 495.00 (4) *Patton*: Suites 40 and 50, 41 and 51 (4 occupants in each suite).
 540.00 (1) *Little*: 112 (3 occupants).
 645.00 (1) *Blair*: "A" (3 occupants).

THE UNIVERSITY DINING HALLS

The new University Dining Halls complete the imposing group of collegiate Gothic buildings at the corner of University Place and Nassau Street, of which Holder Hall and the Holder tower are a part. They have been named Madison Hall, in honor of James Madison, of the class of 1771, fourth President of the United States. The eastern section of the Dining Halls was completed and occupied at the beginning of the present academic year. Work upon the other sections is progressing, and the entire group of buildings will be finished and ready for use in the spring of 1917.

Freshmen and sophomores are required to take their meals at the Dining Halls. Juniors and seniors who belong to upperclass clubs eat at those clubs, while non-club men eat either at the Dining Halls or at private boarding houses approved by the Secretary of Business Administration. The new buildings will contain five large dining rooms, two of which will be assigned to freshmen, two to sophomores, and one to upperclassmen. There is no fixed seating arrangement and students are encouraged to eat at any table, in their respective rooms, at which they happen at any particular meal to find congenial friends. In addition to the dining rooms, each class has a commons or lounging room and a billiard room.

The Dining Halls are subject to constant sanitary inspection. The kitchen is fitted with all the best appliances for cooking and serving on a large scale, and adjoining are a bakery, an ice cream plant, and a milk sterilizing plant. The Halls are in charge of a salaried manager who reports directly to the Secretary of Business Administration. The Manager is assisted by a Dining Halls Committee of fourteen undergraduates. The object of the Dining Halls is to

provide wholesome and abundant food at the cheapest rate compatible with proper service, and amid hygienic and attractive surroundings. The fact that non-club upperclassmen are preferring to eat at the Dining Halls rather than make their own arrangements is believed to indicate that the board provided is better than can be obtained elsewhere. The price per week, beginning with the year 1917-1918, will be \$6.50. Students who are unable to pay the full price of board are given employment as waiters at the Dining Halls and thereby earn all or a part of the price of board. By waiting upon table for two meals each day, a student can earn his entire board. For the third meal, he sits at table with his classmates. Students who wish to secure employment as waiters should communicate with the Secretary of the University or the Secretary of the Bureau of Self-Help.

UNIVERSITY BILLS

All university expenses, including board, must be paid in advance to the Treasurer of the University.

Students are required to call at the Treasurer's office in the course of the first ten days of each term, and to give information as to their place of boarding, etc., so that their bills can be made out. All bills must be paid within the first four weeks of the term. Failure to comply with this rule will deprive the students of the privileges of the University until payment is made, unless excused by special vote of the Faculty.

When a student enters the University before the middle of the term, he shall pay in full the usual charges for that term, with the exception of the charges for board; if he enter after the middle of the term, he shall pay one-half. For board he shall pay in proportion to the time.

When a student leaves the University, whether voluntarily or by dismissal, before the middle of any term, one-

half of the charges for tuition and public rooms for that term will be refunded. But in the case of temporary absence and subsequent return, although the absence be for more than half a term, no such rebate will be granted.

When a student is dismissed from the University for any cause, the advance deposit for board, heat, and light, beyond the time of dismissal, will be refunded to his parent or guardian.

When at the end of the first term the amount of the advance deposit proves to be in excess of the sum required to defray the board or room bills of any student, the excess will be credited on his bill for the next term. At the end of the academic year the amounts overpaid by the members of the *graduating class* for board, room rent, heat, and light will be refunded by the Treasurer to the student's parent or guardian. The parent or guardian of *every undergraduate* will be advised of the amount of excess to the credit of his son or ward, and such amount will be *carried over to his credit on the bill for the first term of the following year*. In case of the withdrawal or dismissal from the University of any undergraduate at the end of the college year, such excess will be refunded by the Treasurer to the parent or guardian, when informed by the Dean of the College that such undergraduate has been withdrawn or dismissed from the University.

PRIZES

ALEXANDER GUTHRIE MC COSH PRIZE

The interest of \$1,500 will be given annually to that member of the senior class who shall write the best essay in philosophy, including psychology, logic, metaphysics, and the history of philosophy. Any one of the following subjects may be chosen: The Meaning of Realism in Present-Day Philosophy and Present-Day Literature; The Place of Science in Thought; The Nature of Consciousness. The essay must be presented on or before April 9.

LYNDE DEBATE PRIZES

Three prizes, the income of \$5,000 contributed by Charles R. Lynde, Esq., will be awarded by a committee appointed by the Faculty, to the three successful competitors in a debate held immediately prior to the trials for the appointment of intercollegiate debaters. The debaters are six in number, three from each of the Literary Societies, and are selected by committees appointed by the Societies respectively from their own members in the Faculty.

BAIRD PRIZES

Through the liberality of Charles O. Baird, Esq., the following prizes, representing the income of \$6,000, will be given to those who excel in the oratorical exercises of the senior class, viz.: The Baird Prize of \$100 to the best speaker of those who have ranked among the first six writers in any two of the three subjects of English literature, rhetoric, and oratory; a prize for oratory of \$50 to the best speaker, exclusive of the Baird Prizeman, of those who, in the same departments, have ranked among

the first twelve writers; a prize for delivery of \$30 to the best speaker exclusive of the two just mentioned; also, a prize for poetry of \$50; and two prizes of \$40 and \$30, respectively, for the best and second best written disputations.

CLASS OF 1859 PRIZE

The interest of \$2,000, given by the Class of 1859, will be awarded to that member of the senior class who shall write the best essay on Realism and Romance in the Works of Hawthorne, and pass the best examination on Literature in New England, 1830-1880. The essay must be handed in on or before May 31, and the examination will be held in June. The subject of the essay for the Class of 1918 will be Daniel Defoe.

GEORGE POTTS BIBLE PRIZES

The yearly interest of \$1,000, given in 1867 by Mrs. Sarah A. Brown, expended in the purchase of two copies of Matthew Henry's *Commentary on the Bible*, will be presented to the best two Biblical scholars of the senior class at the end of their course.

LYMAN H. ATWATER PRIZE IN POLITICAL SCIENCE

This prize, being the annual interest on the sum of \$1,000, contributed by the Class of 1883, was instituted as a memorial of the Rev. Lyman H. Atwater, D.D., LL.D., Professor of Political Science. It will be given to that member of the senior class who shall have passed the best examination and written the best thesis on some subject in political science, to be assigned by the professors in charge of Jurisprudence and Politics.

The thesis, which must be in scholarly form and legibly

written, must be in the hands of the Chairman of the Department of History and Politics by June 1; the examination will be held on that day. The subject for the thesis in 1917 and the basis on which the examination is to be set will be: The Reform of Judicial Procedure.

FREDERICK BARNARD WHITE PRIZE IN ARCHITECTURE

The late Mrs. Norman White established in memory of her son, Frederick Barnard White, of the Class of 1883, a prize in architecture, yielding \$40. The prize is open to the entire junior and senior classes and to special students who take a full schedule of studies. The subject of the essay for the year 1916-1917 is: The Temple of Apollo Didymaeus near Miletus. The subject of the examination is Greek Temple Architecture. The essay should be presented on or before May 15.

CLASS OF 1869 PRIZE IN ETHICS

The annual interest of \$3,000, given by the Class of 1869, will be awarded to that member of the senior class who shall pass the best examination in ethics and write the best essay. The subject of the essay for the Class of 1917 may be either of the following: The Relation of Moral Value to Natural Impulse; The Ground of the Obligation of Patriotism. The essay must be presented on or before May 7.

C. O. JOLINE PRIZE IN AMERICAN POLITICAL HISTORY

The sum of \$100 will be awarded annually at Commencement to that member of the graduating class who shall have maintained a creditable standing in the subject of American history, and who shall have submitted the best written dissertation. The subject of the dissertation for the year 1916-1917 is The Mugwump Movement.

The dissertation must be at least 5,000 words in length and must be accompanied by a bibliography of the subject. Specific references to the sources used must be given throughout.

The prize will be awarded by the professor or professors in charge of the Department of American History.

THE NEW YORK HERALD PRIZE

The yearly interest of \$1,000, presented by James Gordon Bennett, Esq., will be given to that member of the senior class, or to the special student of satisfactory standing, who shall have taken for both terms of senior year at least two of the courses given by the Departments of History and Politics, and of Economics, and at least one course in English literature for both terms, and who shall have presented the best thesis in English prose upon some subject of contemporaneous interest in the domestic or foreign policy of the United States Government. The thesis, which must be in scholarly form and legibly written, must be in the hands of the Chairman of the Department of History and Politics by June 1. The subject for the thesis in 1917 will be: President Wilson's Mexican Policy.

CLASS OF 1876 MEMORIAL PRIZE FOR DEBATE IN POLITICAL SCIENCE

This prize is to be given annually by the Class of 1876 to the successful contestant in a debate on a subject of current interest in American politics, to be held on Washington's Birthday, said prize to be the interest of \$2,000. The competitors, four in number, one from each class, are to be chosen by a vote of their respective classes.

PHILO SHERMAN BENNETT PRIZE IN POLITICAL SCIENCE

The interest of the sum of four hundred dollars, the gift of the late Philo Sherman Bennett, of New Haven,

Connecticut, will be given to that member of the senior or junior class of the University who shall write the best essay discussing the principles of free government. The essay must be in the hands of the Chairman of the Department of History and Politics by June 1.

*SPENCER TRASK DEBATING FUND

The interest of \$3,000, given by the late Spencer Trask, of the Class of 1866, has been used to promote debating. One third of the interest has been awarded to the best debater in the trials for the intercollegiate debates with Yale and Harvard; one third for library books used in connection with debating; and one third for general debating expenses.

PRIZE IN AMERICAN HISTORY, ESTABLISHED BY THE SOCIETY
OF COLONIAL WARS IN THE STATE OF NEW JERSEY

The sum of \$50 will be awarded each year to that undergraduate of Princeton University who shall have submitted the best written dissertation upon some subject of American Colonial history assigned by the Department of American History.

The dissertation must be at least 5,000 words in length and must be accompanied by a bibliography of the sources used. Specific reference to the sources must be given throughout.

Dissertations in competition must be in the hands of the Registrar before May 1, and must be submitted anonymously. The names of the authors should be inclosed in sealed envelopes and attached to the dissertations.

The prize will be awarded by the Professor or Professors in charge of the Department of American History, and the decision will be announced at Commencement.

* There is at present no income from the Spencer Trask Debating Fund.

The subject for the year 1916-1917 is: The Judicial System of Colonial New Jersey.

GARRETT PRIZE ON LATIN AMERICA

The sum of \$100, the gift of John W. Garrett, Esq., of the Class of 1895, will be awarded annually, at Commencement, to that member of the Princeton undergraduate body who shall have submitted the best essay upon some subject connected with Latin America.

The essay must be at least five thousand words in length and must include a bibliography of the sources used. Specific references to the sources must also be given throughout.

The subject for the essays of the year 1916-1917 will be: Economic Problems of the Caribbean Countries in the Twentieth Century. The essays must be in the hands of the chairman of the Department of History and Politics before June 1.

MANNERS PRIZES

The income from an endowment of \$6,000, the bequest of the late Edwin Manners, of the Class of 1877, is to be devoted annually to the advancement of literary and historical studies.

One half of the income will be awarded annually at Commencement to that student of the Graduate School who shall have submitted the best monograph on the history of New Jersey. This monograph must be at least 25,000 words in length, and must be accompanied by a bibliography of the subject discussed. Specific references to the sources used must be given throughout. The monograph must be in the hands of the Chairman of the Department of History and Politics by May 1. The recipient of the award shall be designated "The Nova Caesarea Scholar."

Of the other half of the income, a suitable portion shall be expended for a gold medal in the form of a tiger, and this medal with the balance of the money will be given annually at Commencement to that member of the senior class who shall write the best character study or descriptive sketch in prose or verse. The manuscripts must be in the hands of the Chairman of the Department of English by May 1. By direction of the donor the recipient of the award shall be designated "The Winner of the Golden Tiger."

LAURENCE HUTTON PRIZE IN HISTORY

The income from an endowment of \$2,500, given by Samuel Elliott, Esq., as a memorial to his friend, the late Laurence Hutton, will be awarded annually at Commencement to that student of the University adjudged by the Faculty to have excelled in the work of the Department of History. The prize is open alike to graduate and undergraduate students.

CHARLES IRA YOUNG MEMORIAL TABLET AND MEDAL

A memorial tablet to the late Charles Ira Young, of the Class of 1883, has been placed in the Palmer Laboratory by friends of Mr. Young.

In connection with this memorial, a bronze medal will be awarded each year to the student in the University who excels in research in Electrical Engineering, the medal to be known as the "Charles Ira Young Memorial Medal." The name of the winner of the medal is also to be inscribed each year upon the memorial tablet mentioned above.

CLASS OF 1870 SENIOR AND JUNIOR ENGLISH PRIZES

Of the yearly interest of \$1,500, one half will be given to the best Old English scholar of the senior academic class, and one half to the best English literature scholar of the junior academic class.

WOOD LEGACY

The sum of \$150, the income of a legacy of Dr. George B. Wood, will be awarded to that member of the junior class who shall stand highest for the junior year.

JUNIOR ORATOR MEDALS AND MACLEAN PRIZE

Four gold medals, or books of equal value, will be awarded by a committee, appointed by the Board of Trustees, to the four successful competitors in an oratorical contest during Commencement week. The competitors are eight members of the junior class—four from the Clio-sophic and four from the American Whig Societies—selected by committees appointed by the Societies respectively from their own members in the Faculty.

The Maclean Prize, founded by the will of the late Henry A. Stinnecke, consisting of the sum of \$100, will be given to that one of the orators chosen by the Literary Societies from the junior class who shall during Commencement week pronounce the best English oration.

The committee of judges will be composed of a professor of English and two graduates of the University not members of the Faculty.

DICKINSON PRIZE

The Dickinson Prize, founded in 1782 by the Hon. John Dickinson, of New Jersey, Governor of Pennsylvania and Delaware, consisting of a medal of the value of \$60 (or its equivalent in money), will be awarded to that member of the junior class who shall write the best dissertation upon any one of the following themes in logic: The Relation of Deduction and Induction; The Validity and the Practical Value of Syllogistic Logic; The Logic of Chance. The dissertation must be presented on or before May 14.

THOMAS B. WANAMAKER ENGLISH LANGUAGE PRIZE

This prize, the yearly interest of \$1,000, will be given to that member of the junior academic class who shall pass the best examination in English philology, and write the best thesis on some assigned topic therein.

MARY CUNNINGHAM HUMPHREYS JUNIOR GERMAN PRIZES

Two prizes, of \$25 and \$15 respectively, established by the late Professor Willard Humphreys, in memory of his mother, Mary Cunningham Humphreys, will be awarded to those members of the junior class who, having taken the regular German course for at least two years (all the courses in the Germanic Section of the Modern Language Department in junior year and either Courses 105, 106 or 203, 204) shall, at the close of the second term, pass the best examination on the work of the term.

R. PERCY ALDEN MEMORIAL PRIZES

The income of \$1,000, given by Mr. John P. C. Alden, of the Class of 1907, and divided into a first and second prize, will be awarded annually to the two members of the junior French course who shall submit the best essays on a subject relating to French memoirs. The essays must be presented on or before May 15.

CLASS OF 1883 PRIZES FOR ENGLISH IN THE SCHOOL
OF SCIENCE

Class of 1883 English Prize for Juniors in Sc.B. and Litt.B. Courses:—This prize, the annual interest of \$1,000, will be given to that member of the junior class, a candidate for the degree of Sc.B. or Litt.B., who shall have done the best work in the English studies of the year and submitted the best essay on a subject in English literature assigned by the English Department.

Class of 1883 English Prize for Freshmen in the Civil Engineering Course:—This prize, the annual interest of \$1,000, will be given to that member of the freshman class, in the civil engineering course, who shall have done the best work in the English studies of the year, and shall have submitted the best essay on a subject assigned by the English Department.

STINNECKE PRIZE

The Stinnecke Foundation was established in 1870 by the will of the late Henry A. Stinnecke, of the Class of 1861, and was supplemented by a bequest received in 1876 from his aunt, Miss Maria Stinnecke. The income is divided between the Stinnecke Scholarship of \$500 and the Maclean Prize of \$100.

The Stinnecke Scholarship, of the annual value of \$500, tenable during the undergraduate course unless forfeited by neglect of study, is given every third year "to that person who, having entered the sophomore class, passes the best examination at the opening of the session in September, in the Odes of Horace, the Eclogues of Virgil, and the Latin Grammar and Prosody, as well as the Anabasis or Cyropaedia of Xenophon and the Greek Grammar." Students of the University who have been members of the freshman class, as well as new students entering the sophomore class, will be admitted to such examination. The committee of examiners is appointed by the Board of Trustees. The next competition for this scholarship will be held in the autumn of 1917.

CLASS OF 1861 PRIZE

The interest of \$1,200, given by the Class of 1861, will be awarded to that member of the sophomore class who shall pass the best examination at the end of the year on the elective mathematics of the sophomore year.

FRANCIS BIDDLE SOPHOMORE ESSAY PRIZE

This prize, the yearly interest of \$500, will be given to that member of the sophomore class who shall write the best English essay of the year.

CLASS OF 1870 SOPHOMORE ENGLISH PRIZE

This prize, the yearly interest of \$1,000, will be given to that member of the sophomore academic class who shall pass the best examination on the English studies of the year.

ORANGE ALUMNI ASSOCIATION PRIZE SCHOLARSHIP

This scholarship, which pays the holder \$200 per annum, the income from \$4,000, given by the Princeton Alumni Association of the Oranges, will be awarded in accordance with the following conditions:

I. Only those are eligible to compete for this scholarship whose parents or family shall at the time of the competition have been resident for at least one year in the district of the Princeton Alumni Association of the Oranges, and who themselves are in residence at Princeton as regular members of the freshman class in a course leading to a bachelor's degree.

II. For those eligible to compete for this scholarship a special examination shall be arranged as early in the first term as may be convenient, the material of which shall be selected from the subjects required for entrance. The Faculty shall name as winner of the scholarship that student who stands highest in this examination, and as alternate the student who stands next highest. This alternate may become the holder of the scholarship in case of the death or removal of the winner.

III. The scholarship shall be retained by its winner dur-

ing his freshman and sophomore years, provided that in his studies he maintains a rank not below the second general group and that he does not come under serious discipline for misconduct.

The last competition for this scholarship was held in the autumn of 1915. The next competition will be in the autumn of 1917.

THE PRINCETON CLUB OF PLAINFIELD ENTRANCE PRIZE

The Princeton Club of Plainfield, New Jersey, offers a prize of \$50 annually to the resident of Plainfield or North Plainfield who enters the Princeton freshman class with the best examination record, provided he enters without conditions and remains a student in college in regular standing until the Christmas following his entrance.

REMISSION OF TUITION

Candidates for the degree of Bachelor of Arts, Bachelor of Letters, or Bachelor of Science of insufficient means and of good mental ability and serious purpose may apply to the Secretary of the University for remission of tuition. This remission is in the form of a loan, the recipient being required to sign a non-interest-bearing note and to subscribe in the following conditions:

I. That he holds himself morally bound to pay this note in full at one time or by partial payments at the earliest date practicable.

II. That he will keep the University informed of his residence and occupation until this note is paid.

III. That he will give the University successive renewal notes when and as requested.

Remission of tuition and renewals are granted for one term and subject to the following conditions:

I. The recipient must be regular in attendance at his college exercises and free from serious discipline.

II. His class standing must not be below the third general group.

III. His board must not exceed six dollars and fifty cents a week; and his room, if single, must not be above the third group, as described on page 194 of this booklet, nor, if double, above the fifth group, as described on page 195 of this booklet. Students rooming elsewhere than in the dormitories must not pay more than three dollars and fifty cents a week for rent, including light and heat.

In accepting remission of tuition it is understood that a student agrees seriously to devote his best energies to his studies, and if his work shall appear to suffer by reason of participation in extra-curriculum activities, or if his scale

of living shall seem to be out of proportion to his means, he shall forfeit the remission of tuition even though he shall have complied technically with the rules.

Freshmen who have applied before the opening of college and whose testimonials as to scholarship, character and need are satisfactory, will be granted remission of seventy-five dollars from the charge for tuition for the first term, on admission to the University.

Freshmen whose applications are received after the opening of college and students entering from other colleges, whose testimonials are satisfactory, will be granted remission of fifty dollars from the charge for tuition for the first term.

Sophomores, juniors, and seniors who previously have not applied for remission of tuition but through changed conditions find themselves in need of financial assistance, may apply to the Secretary of the University, provided they have maintained a class standing not below the third general group and have complied with the other conditions.

At the opening of the second term freshmen and qualifying students who received remission of tuition and maintained a class standing in the first or second general group during the first term will be granted remission of one hundred dollars for the second term; those who maintained a class standing in the third general group will be granted remission of seventy-five dollars and, in special cases, those whose class standing was below the third general group may be granted remission of fifty dollars.

At the opening of each term sophomores, juniors, and seniors who have previously received remission of tuition, have maintained a class standing not below the third general group, and have fulfilled the other conditions, will, on application, be granted a renewal, varying in amount from fifty

to seventy-five dollars a term, in the discretion of the Secretary of the University.*

Within the first ten days of each term and before their bills are made out, *applicants for remission of tuition or renewals are required to call at the office of the Secretary of the University* for the necessary order on the Treasurer.

The Secretary of the University is authorized, in his discretion, to remit the full charge for tuition in special cases. This will be done only after a personal interview with the applicant.

For application blanks, apply to the Secretary of the University, Princeton, New Jersey.

* Students who have previously held remission of tuition and have maintained a class standing in the first or second general group are eligible for University Scholarships. For information see page 218.

SCHOLARSHIPS

SCHOLARSHIPS FOUNDED BETWEEN 1853 AND 1902

(Income now used for University Scholarships)

In 1853 the Trustees authorized the Faculty to take such measures as might seem to them necessary towards securing a number of scholarships with a principal of one thousand dollars each. Pursuant to this authorization, between 1853 and 1902 sixty-four scholarships with a principal of one thousand dollars each were endowed by John Aitken, E. F. Backus, A. B. Baylis, Charles S. Baylis, James Blair, Isaac V. Brokaw, Mrs. P. Bullard, Hons. Simon and Donald Cameron (1), Aaron Carter, Jonathan Cogswell, D.D., Roswell Colt (3), Stephen Colwell, A. Creswell, Hon. Amzi Dodd (the Bloomfield Scholarship), Aaron Fenton, A Friend, A Friend (the Henry M. Alexander Scholarship), A Friend of President Maclean (the John Maclean Scholarship), Friends of President McCosh (the James McCosh Scholarship), Hon. Henry W. Green, Dudley S. Gregory, Richard T. Haines, Gen. N. Norris Halsted, Albert O. Headley, Dr. Hugh L. Hodge, Capt. Silas Holmes (5), Hon. John P. Jackson, Peter Jacobus, Jacob J. Janeway, D.D., Ladies of the Presbyterian Church of Huntington, N. Y., James Lenox (5), Drs. John and George M. Maclean (1), J. D. McCord, Frederick Marquand, Members of the Class of 1841, Members of the Class of 1856, Members of the First Presbyterian Church of Bridgeton, N. J., Members of the First Presbyterian Church of Peekskill, N. Y., Members of the First Presbyterian Church of Trenton, N. J., Members of the Second Presbyterian Church of Elizabeth, N. J., George W. Musgrave, D.D., Matthew Newkirk, Dr. Samuel H. Pennington, Hon. Nehemiah Perry, Isaac N.

Rankin, Harry E. Richards, M.D., George L. Sampson (the Henry J. van Dyke Scholarship), Joseph R. Skidmore, I. S. Spencer, Alanson Trask, Joseph N. Tuttle, Hon. John Van Vorst, William White, and Chandler Withington; and one scholarship with a principal of one thousand five hundred dollars was endowed by Henry M. Flagler.

During the same period twenty-one memorial scholarships with a principal of one thousand dollars each were endowed as follows:

The Cyrenius Beers Scholarship by Miss Julia Beers, the J. S. Bonsall Scholarship by a bequest of Mrs. Susan R. Bonsall, the Albert Dod Brown Scholarship by Mrs. Susan D. Brown, the Grace Newcombe Denning Scholarship by Mrs. William Moir (\$1,500), the Finley and Breese Scholarships by a bequest of Samuel F. B. Morse, the Elizabeth Musgrave Giger Scholarship by Prof. George M. Giger, D.D., the Charles Dickinson Hamill Scholarship by Samuel M. Hamill, D.D., the Matthew B. Hope Scholarship by the Trustees of the College of New Jersey as an acknowledgment of the services of Professor Hope in raising an endowment of over one hundred thousand dollars, the Jeremiah D. Lalor Scholarship by a friend, the Harvey Lindsley Scholarship by Mrs. Emeline Coney Lindsley, the John C. D. Matthews Scholarship by Mrs. Mary R. Matthews, the Newark Scholarship by the will of Henry Rogers, the Ezra Nye Scholarship by F. Wolcott Jackson, the John Joseph Rankin Scholarship by William Rankin, the Laurance Field Stevens Scholarship by Herbert B. Stevens, the Nathaniel W. Townsend Scholarship by Mrs. Daniel Haines, the William Campbell Truesdell Scholarship by Warren N. Truesdell, the Van Sinderen Scholarship by Mrs. and Miss Van Sinderen, the Robert Voorhees Scholarship by Mrs. Susan V. Clark, and the Gertrude N. Woodhull Scholarship by Dr. John N. Woodhull.

In 1913 a bequest of one thousand dollars was received from the Estate of Mrs. Mary Hale Chamberlain to endow the Hale Scholarship in memory of Titus Hale and Mary H. Hale, his wife.

UNIVERSITY SCHOLARSHIPS

From the income derived from scholarships founded prior to 1903 forty University Scholarships have been established: ten "A" Scholarships of the annual value of two hundred dollars each, and thirty "B" Scholarships of the annual value of one hundred and seventy-five dollars each. During the summer these scholarships will be awarded for the first term to members of the senior, junior, and sophomore classes who are candidates for the degree of Bachelor of Arts, Bachelor of Letters, or Bachelor of Science, and who have previously received remission of tuition, in accordance with the following rules:

(a) The ten "A" scholarships will be awarded to those students whose standing during the previous year was in the first general group. If more than ten students are eligible, award will be made according to seniority of class.

(b) The thirty "B" scholarships will be awarded to those students whose standing during the previous year was in the second general group. If more than thirty students are eligible, award will be made according to seniority of class, except that students eligible for "A" scholarships shall take preference over all others.

University Scholarships are awarded in all cases for one term and subject to the following conditions:

I. The holder must be regular in attendance at his college exercises and free from serious discipline.

II. His general group, as shown by his latest semi-annual report, must not be below that in which he stood when the scholarship was awarded to him.

III. His college bill for one term for board, room rent, light, and heat must not exceed two hundred dollars.

A University Scholar who has fulfilled these conditions during the first term of a college year will receive the scholarship for the second term of that year without further action on his part.

ENDOWED SCHOLARSHIPS

The endowed scholarships described in the following list may be assigned to students in any undergraduate department of the University unless restricted by the donor to some particular department or departments. The annual stipend of each scholarship at present is one hundred and twenty-five dollars unless another amount is stated. It is customary to assign these scholarships, when they become vacant, to undergraduates who have been members of the University for at least one year, and who are considered most worthy to receive the benefit.

Application for endowed scholarships should be made to the Secretary of the University, Princeton, New Jersey.

THE ELIZABETH VAN CLEVE SCHOLARSHIP: Founded in 1886, by a gift of two thousand dollars, from Hon. Caleb S. Green, of Trenton, N. J., of the Class of 1837. In 1912 the principal was increased to two thousand five hundred dollars by William E. Green, Esq., of the Class of 1902.

The scholarship is ordinarily assigned to a student in the John C. Green School of Science.

THE WISTAR MORRIS WOOD AND CHARLES MORRIS WOOD SCHOLARSHIP: Founded in 1887, by a gift of two thousand dollars from Rev. Charles Wood, D.D., of Washington, D.C. In 1908 the principal was increased to two thousand five hundred dollars by the donor. The annual stipend is one hundred dollars.

This fund shall ordinarily in the first instance be given to a member of the junior class, or in case no member of the junior class answers the conditions, then to any member of the lower classes answering them. Conditions: I. To any foreign missionary's son intending himself to become a foreign missionary; II. To any student proposing to labor in the foreign field; III. To any minister's son studying for the ministry. It shall be understood that the recipient of the fund must possess and keep up superior scholarship.

THE RACHEL LENOX KENNEDY SCHOLARSHIP FUND; with an income of six hundred dollars: Established in 1888 by Miss Rachel Lenox Kennedy, of New York, with a principal of five thousand dollars and increased by the donor in 1890 by a further gift of ten thousand dollars. The income from this fund is used to aid meritorious undergraduates in any department of the University who have maintained high standing in their classes.

THE BUTLER SCHOLARSHIP; with an endowment of two thousand five hundred dollars: Founded in 1892 by William Allen Butler, Jr., of New York, of the Class of 1876, with a gift of one thousand dollars, which has since been increased to two thousand five hundred dollars.

THE MCCORMICK SCHOLARSHIP; a gift of two thousand dollars: Founded in 1894 by Mrs. Cyrus Hall McCormick, of Chicago. The annual stipend is one hundred dollars.

THE WALLACE SCHOLARSHIPS; (two with an income of one hundred and twenty-five dollars each): In 1898 Mrs. R. H. Allen and Miss Wallace, of Newark, N. J., gave five thousand dollars to found two scholarships in memory of their father, William C. Wallace, of the Class of 1823, for the benefit of needy students.

THE JOHN LINN PATTON SCHOLARSHIP: Founded in 1903, with a principal of two thousand five hundred dollars, by Mr. and Mrs. William A. Patton, of Philadelphia, in memory of their son, John Linn Patton, of the Class of 1903.

THE MAHLON LONG SCHOLARSHIP: Founded in 1904 by Rev. George Wells Ely, of Columbia, Lancaster County, Pa., by a gift of one thousand two hundred and fifty dollars and real estate in Minneapolis, Minn., and Jersey City, N. J., valued at eight thousand seven hundred and fifty dollars.

This scholarship is open to undergraduates, members of either the Academic or Scientific Department, and is intended to be given during the entire course to the same student, although appointments or reappointments may be changed by the person having the power, in his discretion. The donor may, during his life, designate the beneficiary, but in case he should not do so on or before October first of each year, then the President of the University shall designate the beneficiary, selecting a regularly matriculated candidate for a degree, who, in his judgment, is a young man of limited means, of worthy character and capacity and who gives promise of a useful life. The net income from this scholarship shall be used by the beneficiary for tuition and other necessary expenses but no more than four hundred dollars shall be paid to any one beneficiary annually; whatever excess income there may be to accrue to the benefit of the fund. The annual stipend is at present three hundred and fifty dollars.

THE JOHN H. CONVERSE AND JOHN W. CONVERSE SCHOLARSHIPS (two, with an income of one hundred and twenty-five dollars each): Founded in 1904 by the late John H. Converse, with a principal of five thousand dollars. The privileges of these scholarships are to be extended by

the Faculty to students looking forward to a seminary course and the Christian ministry, the Presbyterian ministry preferred.

THE ROBERT STOCKTON PYNE SCHOLARSHIP: Founded in 1904, with a principal of two thousand five hundred dollars, by Mrs. M. Taylor Pyne, of Princeton, in memory of her son, Robert Stockton Pyne. The annual stipend is one hundred dollars.

THE FREDERICK WOLCOTT JACKSON SCHOLARSHIP: Founded in 1905, by a gift of two thousand five hundred dollars from Philip N. Jackson, of Newark, N. J., of the Class of 1881.

THE ANDREW WHITE GREEN SCHOLARSHIP; with an income of two hundred and fifty dollars: Founded in 1905, with a principal of five thousand dollars, by the late Cornelius C. Cuyler, of the Class of 1879, as executor and sole legatee of Andrew White Green. The income is to be used in aiding some needy and deserving student each year through his college course; the student to be designated by the President or Dean.

THE HENRY S. GANSEVOORT SCHOLARSHIP: Founded in 1906, with a principal of two thousand five hundred dollars, by Mrs. Abraham Lansing, of Albany, N. Y., in memory of her brother, Henry S. Gansevoort.

THE CLASS OF 1878 SCHOLARSHIPS: Dr. John S. Sayre, of the Class of 1878, who died in 1899, made Princeton University his residuary legatee. After creating the Fellowship of Applied Chemistry and the Fellowship of Applied Electricity, the will directs "the balance of my estate,

if any, to be used for as many as possible endowed scholarships in the Academic (Classical) Department of the University which are to be known as the Class of 1878 Scholarships." At present there are five scholarships of one hundred and forty-five dollars each under this endowment.

THE GEORGE BLACK REA SCHOLARSHIP; with a principal of two thousand five hundred dollars: Founded in 1908 by Mr. and Mrs. Samuel Rea, of Bryn Mawr, Pa., in memory of their son, George Black Rea, of the Class of 1904. Preference to be given to a student in the Department of Civil Engineering.

THE ALGERNON BROOKE ROBERTS SCHOLARSHIP, CLASS OF 1896: Founded with the principal of twenty-five hundred dollars in accordance with a bequest to his mother, 1909.

THE DR. ANDREW J. MCCOSH MEMORIAL SCHOLARSHIPS: Founded in 1909 with the principal of ten thousand dollars by the late Mrs. Alexander Maitland in memory of her brother, Andrew J. McCosh, M.D., of the Class of 1877. Preference is given to students in the senior and junior classes. At present there are two scholarships of one hundred and twenty-five dollars each and two scholarships of one hundred and twenty dollars each under this endowment.

THE JOHN WITHERSPOON SCHOLARSHIP; with an income of one hundred and sixty dollars: Founded in 1909 by the Trustees of the Witherspoon Memorial Association with a gift of four thousand dollars, the unexpended balance of a fund contributed by patriotic citizens for the purpose of erecting a statue in Washington, D. C., to John Witherspoon.

THE S. STANHOPE ORRIS FUND: Professor S. Stanhope

Orris, who died in 1905, bequeathed to Princeton University "the sum of Twenty-five Thousand Dollars (\$25,000) as a fund, the annual income of which shall be divided equally among ten needy academic students of good character and ability, of diligence in study, and exemplary behavior. No candidate for the ministry, however, though needy, studious and possessing ability, shall receive help from this fund unless he pledge himself to continue and do continue the study of Greek regularly to the end of the university course." There are ten scholarships of one hundred and twenty dollars each.

THE SUSAN BREESE PACKARD MEMORIAL SCHOLARSHIP AND THE FRANCIS APPLETON PACKARD MEMORIAL SCHOLARSHIP, founded by a bequest of five thousand dollars under the will of Professor William A. Packard, who died in 1909. "The income of these scholarships to be devoted to paying the tuition fees of students in Princeton University pursuing courses of study of which the Greek and Latin languages and literature shall constitute a substantial part. Students of approved scholarship and character who need this aid, and such only, shall be eligible to receive the same."

THE THOMAS AND LUCY KAYE MEMORIAL SCHOLARSHIPS; two, with an income of ninety dollars each; Founded in 1911 by a bequest of five thousand dollars under the will of John William Kaye, of the Class of 1874.

THE WILLIAM ROME GELSTON SCHOLARSHIP; with an income of two hundred and twenty-five dollars: Founded in 1912 with a gift of \$5,000 in memory of William R. Gelston, deceased, of the Class of 1901, "the net annual income thereof to be given in each year to such student in the Academic Department of Princeton University regularly

matriculated for a degree, as the President of the University shall consider to be a person of capacity and worthy character, who gives promise of a useful life and is of limited means, such appointee to be designated by said President, and such income shall be used by such appointee, first in the payment of his tuition fees, and the balance shall be used by him in payment of his board and other necessary university expenses."

THE JOHN REID CHRISTIE, JR., SCHOLARSHIP: Endowed in 1913 with the principal of twenty-five hundred dollars, received from the estate of John Reid Christie, Jr., of the Class of 1913, who died during the summer of 1913. The annual stipend is one hundred dollars.

THE NOEL BASSETT SCHOLARSHIP: Founded in 1915 with a gift of twenty-five hundred dollars, by friends of the late Noel Bassett, of the Class of 1911. By the deed of gift, the right to recommend the removal of the incumbent of this scholarship rests with the committee representing the donors, until 1940. The annual stipend is one hundred dollars.

THE PRINCETON CLUB OF CHICAGO UNDERGRADUATE SCHOLARSHIP: Endowed by the Princeton Club of Chicago and open to men in Chicago and upper Illinois. The fund available is six hundred dollars a year for the four years of the undergraduate course, the holder being permitted to draw on the amount annually as his needs may require with the understanding that he will sign notes payable at his convenience after completing his course. Awards are made by a committee of the Princeton Club of Chicago.

THE ROCKY MOUNTAIN PRINCETON CLUB SCHOLARSHIP; with a stipend of two hundred and fifty dollars a year:

Awarded for the freshman year to the winner of a competition open to students entering from the high schools in the city and county of Denver or other accredited high schools of the territory covered by the Rocky Mountain Princeton Club. The competition is held and the award is made by the Scholarship Committee of the Rocky Mountain Princeton Club, Denver, Colo.

ENDOWMENT AND ADMINISTRATION OF SCHOLARSHIPS

The following rules for the endowment and administration of scholarships have been adopted by the Trustees:

I. A scholarship available in any undergraduate department may be endowed by the payment to the Treasurer of a sum of not less than twenty-five hundred dollars. Unless otherwise specified by the donor, the endowment of a scholarship will be invested with the general funds of the University and the incumbent will receive as an annual stipend the income of the endowment at the prevailing rate of interest.

II. The right to nominate the incumbent of a scholarship shall rest with the donor, if an individual, during his or her lifetime, or if an institution or alumni association, for a period of twenty-five years. At the end of this period or at the death of the donor, the right of nomination shall revert to and rest with the Faculty of the University.

III. All scholarships shall be held subject to such rules as may be adopted from time to time by the Faculty of the University.

FUNDS FOR CANDIDATES FOR THE MINISTRY

THE RICHARDS FUND: A bequest of Mrs. Esther Richards, of New York, amounting to \$2,970.32, for the benefit of candidates for the ministry. Received in 1790.

THE LESLIE FUND: A bequest of James Leslie, of New York, of the Class of 1759, amounting to \$10,677.49, for "the education of poor and pious youths with a view to the ministry of the Gospel in the Presbyterian Church." Received in 1792.

THE HODGE FUND: A bequest of Hugh Hodge, of Philadelphia, of a house and lot on Market Street, above Second (No. 205) "to be held by the Trustees in trust, to lease out from time to time, and the rents to be applied to the support and education of pious youths for the ministry." Received in 1805.

For application blanks for aid from the funds for candidates for the ministry apply to the Secretary of the University, Princeton, New Jersey.

CHARITABLE FUNDS

THE VAN ARSDALE FUND: A bequest of Robert Van Arsdale, of Newark, N. J., of the Class of 1826, amounting to \$3,000, "in trust for promoting charitable instruction in the College of New Jersey, according to the discretion of the Faculty." Received in 1875.

Applications for aid from the Van Arsdale Fund should be made to Professor Howard McClenahan, Dean of the College.

BUREAU OF STUDENT SELF-HELP

The Bureau of Student Self-Help is managed under the direction of the Secretary of the University, for the purpose of providing opportunities for remunerative employment to students who must earn part of their college expenses. All students who are obliged to earn money during their college course are advised to register with this Bureau.

Further information may be obtained from Mr. George McF. Galt, Secretary of the Bureau of Student Self-Help, 48 Mercer St., Princeton, New Jersey.



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